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## CONTENTS

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>R. M. HARRISON, A Sixth-Century Church at Ras el-Hilal in Cyrenaica</td>
<td>1</td>
</tr>
<tr>
<td>Appendix I on the Greek and Latin Inscriptions, by J. M. Reynolds</td>
<td>15</td>
</tr>
<tr>
<td>Appendix II on the Arabic Inscriptions, by S. M. Stern</td>
<td>19</td>
</tr>
<tr>
<td>T. P. WISEMAN, <em>Viae Anniae</em></td>
<td>21</td>
</tr>
<tr>
<td>G. C. DUNCAN, A Roman Pottery near Sutri</td>
<td>38</td>
</tr>
<tr>
<td>A. W. LAWRENCE, Early Medieval Fortifications near Rome</td>
<td>89</td>
</tr>
<tr>
<td>RICHARD DUNCAN-JONES, The Purpose and Organisation of the Alimenta</td>
<td>123</td>
</tr>
<tr>
<td>Indexes</td>
<td>147</td>
</tr>
</tbody>
</table>
A SIXTH-CENTURY CHURCH AT RAS EL-HILAL IN CYRENAICA
(Plates I—XIII, XXXIII)

I. Introduction

II. The Excavation

III. The Stone-carving

IV. The Mosaics and Opus Sectile

V. Concluding Remarks

Appendix I: The Greek and Latin Inscriptions (J. M. Reynolds)

Appendix II: The Arabic Inscriptions (S. M. Stern)

I. INTRODUCTION

In recent years the investigation of Cyrenaica’s Byzantine remains has proceeded apace. At the end of 1960 nine churches had been excavated, seven on city-sites, two in small towns; many others had been recognised, mainly in the surrounding countryside. A spectacular discovery has been a large palace at Apollonia, almost certainly that of the provincial governor during the last century and a half of Byzantine rule. Miss J. M. Reynolds has collected Cyrenaica’s Christian inscriptions, and a comprehensive publication of the churches and their mosaics is being prepared by J. B. Ward-Perkins, R. G. Goodchild and E. Rosenbaum.

The excavation of the present church, conducted in 1961 by the Cyrenaican Department of Antiquities under the direction of the writer, was planned with specific reference to this forthcoming study. The selection of the site was determined on two grounds. First, the church is an isolated building surrounded by a talus, in these respects similar to a widespread type in Cyrenaica, no example of which had been examined in detail. Second, a single limestone block decorated in

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3 *E.g.* at Limnia (Lamluda) and Mtaugat; see R. G. Goodchild, “Mapping Roman Libya,” *Geographical Journal.* cxviii (1952), p. 150.
6 The church had been identified by Mr. Goodchild, who pointed out the site to me in August 1960. Excavation was begun in March 1961 and lasted five months. Mr. Abdulhamid Abdussaid and Mr. Ali Lakwani, officials of the Department, were in charge of much of the detailed work, the former drawing the plan. The photographs were taken by my wife. A brief preliminary report appeared in *Arch. Anz.* 1962, 436–437, pls. 8–10.
7 One of the churches (Mtaugat) is illustrated in Goodchild, *loc. cit.* (note 3, above), pl. facing p. 149.
shallow relief lay near the church\(^{8}\) (pl. VII, c); it was hoped that more carving might be recovered, offsetting to some extent the hitherto uniform picture (derived from the richer, urban churches) of imported marble fittings.\(^{9}\)

The site lies just north of the modern coast-road from Susa (Apollonia) to Derna (Darnis), some 25 km. east of the former (pl. I, a, fig. 1). Ras el-Hilal is the name of a high promontory of soft chalky limestone, with steep cliffs and deep, sheltered water on its eastern side. This anchorage was the ancient Naustathmos, mentioned by Scylax, Ptolemy and the Stadiasmus.\(^{10}\) In the twelfth century Edrisi knew it as el-Bondariya;\(^{11}\) in the thirteenth a portolano has Bonandrea and mentions a castle, probably the ruins of this church.\(^{12}\)

![Diagram of Ras el-Hilal](image)

**Fig. 1**

The church is a three-aisled arcaded basilica with inscribed western apse (fig. 2; XXXIII). The main entrance, at the east end, is through a wide vestibule, which is flanked on the north by a large room (A), on the south by two smaller rooms (F and G), one with a staircase. Each aisle leads into a small room flanking the apse, the northern of these being a chapel (G), the southern the baptistery (D); at the east end of each aisle, but entered only from the nave, is yet another small room (B and E). Each aisle has a gallery-staircase set near a subsidiary doorway in the church's long side-wall.

In front of the apse, which had once been equipped with a synthonon, a square chancel, with altar, ambon and richly carved screens, projects into the nave. The

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\(^{8}\) See below, III (v).


\(^{10}\) Ed. Müller: Scylax 108; Ptolemy IV, 4; Stadiasmus 51. Add Pomponius Mela (ed. Frick) I, 39, mentioning *Naustathmos promontorium*. F. W. and H. W. Beechey, *Proceedings of the Expedition to explore the Northern Coast of Africa* (London, 1828), p. 473, record 'two ancient forts' on this promontory, one presumably this church, the other a small ruin lying less than 1 km. to the north.\(^{11}\) Cited by S. Ferri, *I testi geografici antichi relativi alla Cirenaica* (Benghazi, 1924). This and the following reference I owe to Mr. Goodchild.

\(^{12}\) Bacchisio R. Motzo, 'Il Compasso da Navigare,' *Annali della Facoltà di Lettere e Filosofia della Università di Cagliari* viii (Cagliari, 1947), p. 66. The medieval name might possibly suggest that the Ras el-Hilal church had been dedicated to St. Andrew; cf. Appendix I, c, 1, a (ll. 4–5) and b, Below: supplant or Saint?
Fig. 2.—Simplified Plan of Church (cf. Pl. XXXIII)
chancel and rooms A and C have pavements of *opus sectile* bordered by rough mosaic, the nave a mosaic with figured panels. The vestibule has limestone flags and rudimentary *opus sectile*. Other floors are of lime-plaster, levelling the rock-platform upon which the church is built. The walls of rooms C and D were decorated in stucco with fluted pilasters framing painted panels, and the conch of the apse had been filled by a huge stucco shell in high relief.

The church was surrounded on three sides by a talus, the east end, facing a courtyard, being left open. Inside, the arcades were reinforced by rough walls overlying the mosaic. At the east end other emergency measures were necessary to sustain the weight of two upper storeys. The church was probably built towards the end of Justinian's reign and abandoned some eighty years later, when Cyrenaica was overrun by Arab forces (A.D. 643). There was squatter-occupation in the ruinous building, and in the early eighth century several Kufic inscriptions were incised on the walls.

II. THE EXCAVATION

The apse, aisles and side-rooms were encumbered with virtually undisturbed debris to an average depth of 2·50 m. The arcades had collapsed outwards into the aisles, and along the centre of the nave fallen rubble lay only 0·60 m. (in the vestibule, 1·30 m.) above the floor. The shelter afforded by the hollow of the nave had been constantly exploited in medieval and more modern times, one result being the almost total destruction of the eastern half of the mosaic pavement. Initial clearance in the vestibule, defining the main entrance and reducing the level of debris to that in the nave, made it possible to lay a Decauville light railway-line into the building along its axis and to begin systematic excavation in the area of the apse.

(a) The Apse. The first blocks to be removed had fallen from the curved inner face of the vertical wall. Beneath were blocks from the semi-dome, which had spilled out also into the chancel; these were not wedge-shaped, laid radially, but had been corbelled out in (seven?) horizontal projecting courses.\(^\text{13}\) Crushed beneath these were a three-sided limestone capital (pl. VI, d)\(^\text{14}\) and several hundred fragments of stucco, comprising (i) the flutes of a vast decorative shell (pl. VI, a),\(^\text{15}\) (ii) a narrow cornice, slightly curved (fig. 3:4),\(^\text{16}\) and (iii) pieces of a pilaster-capital in shallow relief (pl. VI, a).\(^\text{17}\) This material overlay a plaster floor, trodden into the surface of which were a small bronze cross and chain, the horizontal bar of a similar cross, and two shattered glass vessels (fig. 4: 1, 2, 6, 7).\(^\text{18}\) Beneath this

\(^{13}\) Heights of semi-dome courses: (i) 0·51, (ii) 0·51, (iii) 0·56, (iv) 0·47, (v) 0·35, (vi) 0·31 m.; the curvature of (vi) implies one more course.

\(^{14}\) See below, III (ii): this had surmounted one of the columns (diam. 0·37–0·45 m.) flanking the apse (see following paragraph); total height of column and capital c. 3·0 m.

\(^{15}\) These fragments were found in such quantity as to leave no doubt that the shell had entirely filled the semi-dome. It is assumed that the flutes radiated upwards, following the practice of the eastern provinces, and some confirmation is afforded by the two main mosaic panels from the nave (pls. IX, X). Dimensions along top edge of illustrated fragment of shell: width of channel 0·18, width of rib 0·06, depth of channel 0·04, maximum total thickness 0·07 m. Traces of yellowish-red paint were observed.

\(^{16}\) H. 0·14–0·18, maximum projection 0·075 m.

\(^{17}\) H. 0·37, top width c. 0·56, maximum projection 0·09 m.

\(^{18}\) See below, p. 11.
floor, at a further depth of 0.10 m., was an earlier floor of rock levelled with mortared-rubble. The inner face of the apse, which stands seven courses (3·40 m.) high (pl. I, b), had twice been rendered in thin stucco, and a regular line of mortices along the upper edge of the third course (height 1·40 m.) was evidence for a wooden synthronon. Two blocks, probably acting as supports for a central throne, antedate the later floor of lime-plaster, but whether they were co-existent with the synthronon could not be determined.

![Diagram of marble tables and stucco from apse](image)

**Fig. 3.—Fragments of Marble Tables (1–3) and Stucco (4) from Apse**

(b) *The Chancel and Nave.* The removal of the remaining semi-dome blocks from the area immediately in front of the apse revealed scattered fragments of two monolithic limestone column-shafts. The stumps of these columns were found *in situ* on either side of the springing of the apse, and against them were set the terminal screens of a series which enclosed a square chancel on three sides. Similar stumps were uncovered at the eastern corners of the chancel (pl. VIII, a). The chancel had three entrances, one from the nave set centrally between two pairs of screens, and one each on the north (pl. III, a) and south sides, flanked in each case by two screens to the west and one to the east. For convenience of reference the screens are numbered 1–10, counting clockwise from the north-western corner. The screens and intervening posts were supported by a plinth, which is 0·50 m. wide and rises 0·10 above the chancel-floor.

At the centre of the chancel was found the altar-platform with two marble column-bases *in situ* (pl. VIII, b). This, together with a rough step on the west side, was surrounded by a floor of *opus sectile*, eked out with an irregular border of mosaic (pl. VIII, a; see below, p. 14). Standing upon the mosaic in the south-eastern corner of the chancel is a column-shaft (pl. VIII, b), which perhaps served as a table-support. Near it the double-step of an ambon antedates the *opus sectile*.

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19. Both layers continue round the apse's northern springing; the first antedates the chancel-column, the second (with traces of green paint) postdates it.

20. See below, III (i).

21. The altar-platform is in fact the re-used doorslab of a Greek tomb, of a type familiar at Cyrene.
Fig. 4—Objects of Bronze and Glass, Lamps (cf. p. 11)
and mosaic, both of which were laid up to its edge. Overlying the pavement, and embodying fragments of screens 1 and 2, was a uniform layer of hard-packed lime plaster c. 0·15 m. thick. A small bronze chisel (fig. 4: 5) and fragments of at least three marble tables (fig. 3) were recovered from above this secondary floor.

The north and south sides of the chancel are separated from the nave-arcades by c. 1·30 m. In the area between screen 1 and the short respond-wall of the northern arcade a plain tomb was constructed, its walls built of small blocks backed by mortared rubble, which, on the south side, retained the negative imprint of the carving of the outer face of screen 1. The tomb, containing two skeletons (heads to west), was closed by five oblong slabs and subsequently plastered. Later, a rough strengthening-wall was built against the east end of the tomb filling the space outside screen 2; a gap was left for the chancel-entrance between screens 2 and 3, and the wall was continued along the line of the nave-arcade. Similarly, a secondary wall was constructed on the south side, but it was (a) narrower and (b) continuous, in effect closing the chancel-entrance between screens 8 and 9.

The nave-arcades are each of ten bays, with nine free-standing piers set on a continuous plinth 0·25 m. high. The chancel is raised c. 0·20 m. above the floor of the nave, and the narrow areas to north and south of the chancel, together with the approach to the chancel’s axial entrance, are unpaved, simply consisting of rammed plaster. The rest of the nave, however, was paved in polychrome mosaic, with figured panels surrounded by borders of guilloche, meander and loop-patterns.

On the south side, the secondary reinforcement-wall was built directly on top of the mosaic for the full length of the arcade, whereas the secondary wall on the north side is thicker and shorter and cuts through the mosaic. In both walls a passage was left open opposite the fourth bay from the west, but on the south side this was later sealed. The mosaic pavement was overlaid with hard-packed lime plaster c. 0·15 m. thick, at the western end embodying large fragments of screens 4–7 which had fallen outwards. A coin of 615–29, found on top of the nave-mosaic and beneath the lime plaster, provides a *terminus post quem* for the latter.

(c) The Aisles. Uppermost were voussoirs from the arcades, lying in groups as they had fallen from each bay. Beneath were piers from an upper storey, again each corresponding with a lower pier in *situ*. Finally, immediately above the floor of lime plaster and rock, were many small fragments of rubble, faced with smoothed lime mortar.

Each aisle has a high arched doorway in the outer wall. The shoulders of the arch are flanked by long blocks set transversely in the wall and projecting beyond its two faces. On each inner projection a rectangular groove had been cut in the upper face of the block; a wooden beam had evidently lain horizontally above the doorway, and from it probably hung a curtain. Just inside the doorway a flight of

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22 See below, III (iii). A similar triple-step was found upturned in the south-eastern part of the chancel of Apollonia’s West Church, but its excavators argue that it originally stood in the nave: W. M. Widrig and R. G. Goodchild, *loc. cit.* (note 1, above), p. 78, pls. xxvii, a, and xxxii, b.

23 See below, p. 11.

24 See below, IV.

25 This layer of plaster postdated the reinforce-ment-walls and was found only upon the surviving areas of mosaic; presumably it once covered the whole nave, while the mosaic was still virtually intact.

26 See below, p. 11.

27 Thickness 0·10–0·15, av. length 0·30 m.
steps, constructed against the outer wall, led to the gallery. In the north aisle two steps have survived; in the south four: the length of the stair-platform is sufficient for eleven or twelve. In the south aisle a semicircular plaster-lined basin was erected against the side of the platform, and in the northern two shallow graves were dug into the floor east of the platform.

The apse has been built forward from the west wall of the church to accommodate a narrow passage behind it, which was entered by a small doorway at the west end of each aisle, and which either gave access to a crypt or fulfilled some liturgical need for an ambulatory from one aisle to the other. These small doorways, however, being placed outside rooms C and D, separate the return-walls of the apse from their normal buttresses, the partition-walls dividing the aisles from these rooms. An arch was therefore constructed across each aisle in line with the return-walls of the apse. The partition-walls, enclosing rooms C and D to exactly the same dimensions as B and E, certainly belong to the original plan. At first sight it might look as if the transverse arches are of secondary build, but neither walls nor arches are bonded into the lateral walls, and no evidence was found to suggest that the arches are not contemporary with the walls. One later modification, however, was the careful blocking of both entrances to the narrow passage.

(d) Rooms B, C, D and E. Whereas C and D, flanking the apse, are entered from the aisles, B and E flank the east end of the nave and are entered directly from it. B and E both have plaster floors: the only distinguishing feature of the former is a small square window in its west wall, opening on to the north aisle; the walls of the latter are preserved to a considerable height and are discussed below (p. 10) in connection with the upper storey.

Room C was evidently a chapel. Its door, set at the north end of the north aisle’s east wall, has a high threshold 0.20 m. above (but antedating) the floors on either side. Against the south wall of the chamber a small hollow platform had been erected: this consists of orthostat slabs set on a rough plinth (length 1.50, projection from wall 1.0, present height of slabs c. 0.50 m.) and seems likely to have been an altar containing a reliquary. The floor had been paved with opus sectile and mosaic (as in the chancel and room A); fragments of opus sectile were found laid against the threshold, fragments of mosaic against the altar-plinth. Two layers of stucco covered the walls, a thick primary and a thin secondary plinth, both (at one point on the east wall) overlying the opus sectile. The stucco passed behind the altar, the height of which determined the decoration of the stucco (see below). Altar, pavement and stucco are thus contemporary.

The walls are decorated with pilasters in stucco. Three on the west wall, two on the east wall to the right of the door, and one (there had been four) on the
north wall are fluted; a pair on the south wall, corresponding with the ends of the altar, are plain. The fluted pilasters (width 0·30 m.) each have five rectangular flutes and are crowned by a narrow line of beads c. 2·30 m. above the floor; fragments of one acanthus capital were recovered in situ. Each flute was filled with a semicircular moulding to a height of 0·80 m. above the apophyge. The base was made up of two roundels divided by a scotia and rested on a continuous string-moulding c. 0·30 m. above the floor; beneath each pilaster was a projecting plinth (cf. pl. IV, b).

The panels framed by these pilasters were painted in simple geometric designs. In three cases a lozenge containing a circle and framed within a high oblong border was recognized by guide-lines incised in the stucco. These oblong frames extend from the base- to the crown-moulding, except in the central panel of the south wall, where the bottom edge of the frame is 1·15 m. above the floor and thus gives some indication of the original height of the altar. This frame contains an indistinct curvilinear motif in each corner, surrounding a pointed-oval set horizontally. Colours observed were red, blue and green.

A wide arch (span 1·75 m.) was later constructed across the middle of the room in front of the altar. The two piers, overlying the opus sectile, are each made up of base, shaft and capital, all rough, improvised blocks. The height of the eastern pier is 1·52, of the western 1·40 m. This was doubtless an emergency measure to support the ceiling.

Room D was the baptistery. In the centre of the room a circular basin (diameter and depth 1·0 m.), rock-cut and plaster-lined, was equipped with two opposed flights of three steps (pl. III, b). The floor of rock and plaster was unpaved. The walls were decorated in the same manner as room C with fluted pilasters in stucco-relief, two on the eastern wall (pl. VIII, a), three on each of the others (pl. IV, b).

(e) The East End. A narrow doorway in the eastern wall of the church leads into the vestibule; this is paved with stone flags and rudimentary opus sectile in the form of small hexagons of white limestone, and has one triple doorway opening into room A, another (occupying the whole width of the vestibule) into the nave. The four jambs of the doorway of room A had been capped by carved blocks; two of these remain in situ, one of similar dimensions was found lying outside the east end of the church before excavation (pl. VII, c). The floor of room A had been paved in opus sectile with a mosaic border. The western and central doorway had later been blocked, perhaps at the same time as the central and northern doorways between vestibule and nave were also blocked. Later, another measure was the insertion of a wide arch (span 3·0 m.) across the vestibule; this arch overlies the flags, and near its southern springing lies the mouth of a large cistern.

Opening separately off the south side of the vestibule are rooms F and G. The latter is a long, narrow room, the west wall of which stands to a height of 3·30 m. above the plaster floor; at 3·0 m. the wall has a rebate of 0·05 m., immediately above a row of beam-sockets 0·60 m. apart. At the south end of this wall is an upper-floor threshold in situ; the significance of this, together with that of room F, which contains a staircase, is examined below (p. 10).

(f) The Exterior. The outer wall of the church is of one build interrupted only
by the three doorways. The corners are strengthened with heavy quoins; otherwise
the masonry is of small blocks, roughly dressed, coursed and laid in two faces with
a core of earth-mortar. The wall is uniformly 0·75 m. thick and was rendered in
stucco both inside and out.

A talus surrounds the church on three sides, leaving the east end open. It was
investigated at two points, (i) where it passes the southern doorway, and (ii) where
it ends abruptly at the south-eastern corner. In both places its foundations lie
near bed-rock, c. 1·50 m. below the level of the church’s south wall and c. 3·0 m.
outside it. The sloping masonry had been laid against an earth-fill, and traces of
stucco-rendering were observed on the lowest courses. In the first trench it was
found that the talus had originally turned inwards on either side of the south door-
way, but that later it had been made continuous when the doorway was blocked.

Immediately outside the east wall a flagged pavement, at a lower level than that
of the vestibule, provided evidence for a courtyard. Unfortunately this could not
be investigated in the time available for the excavation, but it cannot have extended
far, in view of the terrain which slopes steeply east of the church to the cliff-top.

(g) The Upper Storeys. That there were galleries over the aisles is proved by the
staircase in each and by piers found fallen beneath voussoirs of the arcades: these
piers, like the piers of the lower storey, had slots for a wooden rail (pl. VIII, d).
The fragments of rubble faced with smoothed lime mortar, which were found in
both aisles, can probably be interpreted as remains of the gallery-floor, although the
possibility remains that they are part of the roof. No voussoirs could be attributed
to an upper arcade, and the piers would then have carried horizontal beams. There
was no evidence for upper windows in the outer wall (but cf. Addendum, p. 20).

The staircase in room F, rising in ten steps from the north-western corner of the
room (the doorway from the vestibule) to the south-western, reached a landing
3·0 m. above ground-level. A high-level threshold at the southern end of the
wall dividing rooms F and G proves that a doorway led from this landing on to the
upper floor of G, which was supported on beams and a rebate 3·0 m. from the ground.
The steps up to the landing, however, only occupy half of room F, and clearly a
second flight spanned the other half, ascending to a third storey.

A puzzling feature is a high-level opening (width 0·84 m.) towards the south
end of the wall dividing rooms E and F. Its sill, 2·70 m. above the floor of E, is
below the level of the preserved height of the west and south walls of E, which
exhibit neither beam-holes nor rebate. This opening cannot then have been a
narrow door, but must be interpreted as a window. Whether light was to be shed
from E (by high-level outer windows which have not survived) into F, or vice-versa,
cannot be determined. What is certain is that there was no first-floor passage
from the gallery above the south aisle across E to F: the independent staircases
gave access to independent upper floors.

The threshold of the east entrance is 0·25 m.
above the floor of the vestibule and 0·70 m. above
the courtyard (there would thus have been two
steps outside the door); the nave-mosaic lies 0·20 m.
higher than the floor of the vestibule.

The absence of tiles precludes a tiled roof.
As for the timbers, these were doubtless salvaged
at an early date either for building or for firewood,
although, had they been left, traces would scarcely
have survived the harsh alternation of wet and dry
seasons.
The secondary arch across the vestibule presumably supported sagging superstructure, and this suggests that the second storey had been carried across the east end of the church. It is open to conjecture whether the third storey (i) also spanned the entire width of the building, or (ii) was limited to a tower at the south-eastern corner, or (iii) comprised twin-towers, the north-eastern being reached by a light ladder from the upper floor of room A.\textsuperscript{33a}

(h) Coins, Selected Small Objects and Pottery.

(i) Constantinopolitan M (follis) of the fifth regnal year of Tiberius II (= 578/9);\textsuperscript{34} gallery-debris in S. aisle.
(ii) Constantinopolitan K of the fifteenth regnal year of Maurice Tiberius (= 596/7);\textsuperscript{35} gallery-debris in S. aisle.
(iii) Constantinopolitan M of Heraclius, Heraclius Constantine and Martina (615–29);\textsuperscript{36} overlying nave-mosaic, underlying late floor.
(iv) Copper 2-soldini for Dalmatia and Albania, struck at Zara mid-seventeenth century for Venetian forces fighting the Turks;\textsuperscript{37} topmost debris, room C.
(v) Glass : h. 0-87, diam. 0-85; centre of apse, on late floor (fig. 4, 1).
(vi) Glass : h. 0-68, max. diam. 0-56, solid stem; centre of apse, on late floor (fig. 4, 2).
(vii) Glass : h. 0-85, rim diam. 0-83; W. end of nave (fig. 4, 3).
(viii) Glass : h. 0-65, diam. 0-61, spiral relief; W. end of nave (fig. 4, 4).
(ix) Bronze chisel : l. 0-86, square tang; chancel, above late floor (fig. 4, 5).
(x) Bronze cross and chain : h. of cross 0-68, w. 0-06, thickness less than 0-001, h. with chain 0-175, stamped concentric circles; centre of apse, on late floor (fig. 4, 6).
(xi) Bar of bronze cross : l. 0-63; centre of apse, on late floor (fig. 4, 7).
(xii) Lamp, soft light-red clay : l. 0-128, w. 0-06, h. 0-048; W. end S. aisle, gallery-debris (fig. 4, 8).
(xiii) Lamp, soft white clay : l. 0-105, w. 0-076, h. 0-042; room D (fig. 4, 9).
(xiv) Lamp, soft white clay : l. 0-103, w. 0-062, h. 0-025; W. end N. aisle, topmost debris (fig. 4, 10).

The pottery was examined by Mr. J. W. Hayes, who kindly contributes the following note: 'The quantity of pottery is not great and includes no complete or near-complete vessels. There are numerous parallels with the finds from the Palace at Apollonia, although here there are more pieces of Egyptian origin. To judge by similar material from sites in Greece and elsewhere, almost all fall within the range a.d. 550–650; it is, however, just possible that some of the pieces postdate the Arab conquest.

There are no glazed sherds. Among the fine wares Coptic Red Slip Ware\textsuperscript{38} predominates; forms include Monastery of Epiphanius I and J, and two fragments (for which I know no parallels) of large deep bowls or basins with straight flaring walls, having bands of rosetting on the outside, and a high hooked rim. \textit{N. African Red Slip Ware} ('Late Roman B') is poorly represented, with one base as

\textsuperscript{33a} The Polis Nea Theodorias panel at Gars el-Lebia (\textit{cf.} note 2, above) probably depicts, not a conventional city-gate as has been suggested, but the façade of a church of this type: the doorway (flanked by towers) is shown screened by a curtain (for curtains at Ras el-Hilal cf. p. 7 above); the trees are merely space-fillers, as elsewhere on this pavement.
\textsuperscript{34} \textit{Cf.} W. Wroth, \textit{Catalogue of the Imperial Byzantine Coins in the British Museum} (London, 1908), i, p. 108, no. 21, pl. XIV, 5.
\textsuperscript{35} \textit{Cf. ibid.}, p. 136, no. 96.
\textsuperscript{36} \textit{Cf. ibid.}, p. 208, no. 188, pl. XXIV, 10. The specimen is clipped and worn, and the date is illegible.
\textsuperscript{37} \mathcal{E}, diam. 0-029 m., wt. 7-34 grams. \textit{Obs.}, S. MARC. VEN., frontal bust of Lion of St. Mark: \textit{in exc.}, II. Rev., 'DALMA|E|T|AL|BAN'.
\textsuperscript{38} For this ware see H. E. Winlock and W. E. Crum, \textit{The Monastery of Epiphanius at Thebes} i (New York, 1926), pp. 84–87, fig. 37, pls. XXXI–II. (It is there termed 'Imitation Samian.'
Antioch-shapes 801–2, and a few sherds of sixth-century bowls. A little ‘Late Roman C’ also occurs.

The most unusual pieces are two sherds of a large painted jug or jar, with cylindrical body (c. 0.24 m. diam.), almost flat shoulder, and plain vertical neck of uncertain height. The upper part of the exterior is coated with a creamy slip, on which are painted horizontal bands of red and black; at one point there is a vertical black splash. The clay is rather coarse dark brown, with golden mica flakes; this suggests an Egyptian origin, but I know no parallels.

In addition to the three lamps published above there are several fragments of a small plain circular type with a small pinched, unperched handle, a type found in quantity in the Palace at Apollonia, and clearly of local origin. Amphorae are of the sixth to seventh century types found at Apollonia. Among the coarse wares are a number of sherds with wavy combed decoration on the shoulder; these come from amphorae and jugs, generally without body-ridging. A similar form of decoration occurs on vessels from late sixth to mid-seventh century contexts in Greece.

Selected sherds have been placed in the Museum at Apollonia.

III. THE STONE-CARVING

(i) Chancel-screens and chancel-posts. The ten screens vary in thickness from 0.09 to 0.12, and in length from 0.75 to 1.75 m.; their height, where this could be restored, was about 1.0 m. (pls. IV, V, VII). Each has relief-carving on both sides, although the treatment of the outer faces of 1–3 and 8–10 is summary, consisting mainly of compass-drawn crosses and rosettes. The principal carving (on both faces of 4–7 and the inner faces of the rest) comprises a large number of abstract motifs and stylized leaves and flowers. The limestone is extraordinarily soft, and the elaborate carving is free and linear; indeed, the effect is more like that of wood or ivory, or of chalk cut with a knife, than of stone worked with hammer-and-chisel. The rich repertory of unusual rectilinear and plant motifs and the manner of overall surface-decoration find a parallel in the carvings from the church at Breviglieri in Tripolitania. Here an unequivocal cross appears only once, and the only motif inherited from classical decoration is a bead-and-reel on the same screen (1).

The screens are supported by grooved posts. These are square in section, except the pair flanking the northern entrance to the chancel which are round. The post south of the axial entrance has a rounded finial, and one small capital, recovered from the late wall in the south aisle, may have surmounted another post (pl. VI, c). The two round posts (each carved from one block) have bases, spirally fluted shafts (diam. 0.25 m.) and acanthus-capitals, and are 1.50 m. high (pls. III, a and IV, a).

(ii) Three-sided acanthus-capital of limestone, from one of the pair of columns flanking the apse: h. 0.50, w. 0.40, depth 0.35 m. (pl. VI, d).

For relevant chancel-screens at Barce, see J. B. Ward-Perkins, ‘Christian Antiquities of the Cyrenaican Pentapolis,’ Bulletin de la Société d’Archéologie Copte ix (1943), Pls. VII, VIII.
(iii) Ambon-steps, in situ : l. 0.83, w. 0.60, h. 0.57 m.; the northern and western sides of the block are each decorated with a cross in shallow relief (pl. VIII, b).

(iv) Rectangular block found at west end of nave : h. 0.53, w. 0.28, depth 0.40 m.; a large monogram-cross in high relief (0.03 m.) occupies the whole face of the block, the tip of the open-loop touching the end of the horizontal bar, which bisects the longer vertical bar.

(v) Block lying outside east end of church, probably from the eastern jamb of the central doorway from the vestibule to room A: h. 0.35, w. 0.43, depth 0.54 m.; decorated in shallow relief with an encircled Greek cross flanked by plant-motifs (pl. VII, c). Two similar carved blocks are in situ on the western two jambs of this doorway.

(vi) Small capital of white marble, found in chancel : base diam. 0.22, h. 0.18, abacus 0.27 m. square. The bell is sheathed by eight acanthus leaves, one beneath each corner rising to full height, one on each side rising to half height; the tips of the leaves curl outwards, and the cutting is shallow and 'chunky.'

(vii) Fragment of spirally fluted shaft of black marble, found in north aisle : diam. c. 0.15 m.

(viii) Two small colonnette-bases of white marble, in situ on altar-platform: c. 0.15 square, diam. of fractured shaft 0.09 m.

IV. THE MOSAICS AND OPUS SECTILE

Towards the west end of the nave, flanking the approach to the chancel, were two figured panels (pls. IX, X), surrounded by a black-and-white design of intersecting circles (av. diam. 0.29 m.). Both panels were lifted, consolidated in concrete and transferred for safety to the Apollonia Museum.

The right-hand edge of the northern panel (1.01 × 2.06 m.) had been damaged by the secondary wall. It contains a female orans standing between two spirally fluted columns which support a conch, and carries the inscription KTHCIC.\(^{41}\) The ribs of the conch, yellow edged with black, radiate upwards from a valve of white marble. White marble and red limestone are used for the headdress, and red and yellow limestone for the cloak; the ankle-length tunic with sleeves is white and yellow, edged with black. Flesh-colours include two shades of pink, and the lips and line of the chin are enlivened with red glass-paste. Tesserae 50–100 p.s.d.

The southern panel (1.095 × 1.90 m.) depicts a female orans between two smooth columns which support a conch; the inscription here is KOCCMHICIC (sic). The figure is similar to KTHCIC and the same colours are employed, but the technique is cruder and the lady is of stouter build. Tesserae 45–80 p.s.d.

Enclosing the rest of the nave, and contained on the north, east and south sides by a white margin (av. width 0.60 m.), is one border (0.285 m.) of two-strand guilloche enclosing another of meander-pattern (0.75 m.). Within this rectangle fifteen (5 × 3) approximately square, figured panels were surrounded and separated by frames of interlaced triangular loops (0.40–0.50 m.). The outer white margin

\(^{41}\) The inscriptions are discussed below, Appendix I.
has a narrow black stripe near its inner edge, and at one point, by the sill of room B, has a simple chalice with a dove (or swallow?) on each handle; the left-hand bird is intact, but of the right only the head, in the mouth of the chalice, remains (pl. XI, d).

Although small fragments of four others survive (sufficient to reconstruct the general scheme, cf. pl. XXXIII), only the western three panels are at all well preserved, and even here little more than half the scene has been preserved in each case. Northern panel (1·20 × 1·21 m.): top r., stocky tree with six pomegranates; top l., gazelle standing to l., looking back r.; lower part destroyed. Central panel (1·42 × 1·24 m.): top l., tall crested bird with erect slender neck, facing r.; top r., similar bird stooping to l.; lower r., smaller bird of same species advancing to r. (pl. XI, b). Southern panel (1·12 × 1·22 m.): top r., forepart of (?) tiger leaping from cover (an undulating dark line, set vertically) towards l.; top centre, hare fleeing to l., looking back; bottom centre, hare running to l. (pl. XI, a). Colours are white (the background), grey, yellow-ochre, greenish yellow, pale red and dark red (all limestones), and black (marble); there are a few tesserae of white marble and of glass-paste.

The chancel and rooms A and C were each paved with opus sectile surrounded by mosaic. On the west side of the chancel and in room A the mosaic is set in black circles on a white ground; on the sides of the chancel and, to judge by scant surviving fragments, in room C the mosaic is plain white. The main feature of the chancel’s opus sectile is a square panel in front of the altar; within it a circle contains two squares, placed axially and diagonally to enclose an octagon, which in turn contains a smaller encircled square (pl. VIII, c). For the rest, the pavement is made up of squares, framed by oblongs set with lozenges. The marbles employed are black, white, red and green (cippolino), and are laid upon tile-fragments embedded in plaster. The technique is markedly inferior to that of the pavement in the West Church at Apollonia. In the vestibule, the flags are interrupted by narrow strips of small interlaced hexagons of white stone.

V. CONCLUDING REMARKS

The church can be assigned with confidence to the late-second or third quarter of the sixth century. This is suggested by a comparison of the mosaics with those at Gasr el-Lebia and Cyrene, and confirmed both by the evidence (pottery and coins) for occupation during the late sixth and early seventh centuries, and, on historical grounds, by the likelihood that an unfortified rural church would be built in relatively peaceful times.

That the talus was not initially contemplated is shown by plaster on the outer face of the northern church-wall, subsequently hidden by the talus, and (more conclusively) by the decorative corbels flanking the south door, which were obscured by the talus. It seems unlikely, moreover, that the talus was conceived as a defensive measure, although doubtless it later served as such when the south door was blocked.

The four outer walls of the church were not bonded with the inner walls, and, being constructed on the outer edge of a rock-platform, they may have been in danger of falling outwards: hence the need for abutment, which, however, could leave the lateral doorways and east end open.

Inside the church, steps were taken to consolidate collapsing masonry. The arcades were blocked, leaving only one passage into each aisle, two doors of the triple-doorways from the vestibule into the nave and into room A were sealed in each case, and a transverse arch was inserted in the vestibule. At a later date, presumably when the church was no longer used as such, the floors of the apse (which now had no synthronon), of the chancel and of the nave were covered with a uniformly thick layer of plaster. This layer embodied fragments of prostrate chancel-screens, although the screens on the south side of the chancel remained standing. Beneath the plaster and overlying the mosaic was found a coin of 615–29; the specimen is clipped and worn, confirming the impression that the plaster layer postdates the Arab invasion of 643.

A rough wall, including fragments of chancel-posts and chancel-screens, was built across the south aisle, after the eastern half of the gallery had collapsed and before the blocking of the only means of access from the nave. Arabic graffiti at the east end of the nave and outside rooms C and D show that these parts were accessible in the eighth century: one (No. 2, below) is dated a.d. 722, another (No. 3) at least a decade earlier.

The importance of the church at Ras el-Hilal lies in its contribution to the provincial picture, of particular interest being the elaborately carved chancel-screens, the stucco decoration, the two mosaic panels depicting orantes, and the evidence at one point for a third storey. No attempt will be made here to assess this contribution; indeed, such assessment would be wholly premature, pending publication of the corpus of Cyrenaican churches.

R. M. HARRISON

APPENDIX I: THE GREEK AND LATIN INScriptions

A. Painted wall-plaster found in the debris of Room C.

1. Four fragments of plaster moulding (a 0·085 × 0·03, b 0·06 × 0·055, c 0·025 × 0·02, d 0·08 × 0·03) painted with black letters (fig. 5, 1). Letters av. 0·01; e, Λ = α.

   a The final letter seems to be ε, and if this is correct the most obvious interpretation would be ἔλθων (élothos) ε'

   b Perhaps ... τέραν να(ν) κ[ ... or τέραν να(ν) κ[ ... For NA = wads, cf. CIG 8653 of the fifth-sixth centuries.

   c No interpretation possible.

   d The first surviving letter, perhaps or ω, appears to be under the R end of a superscript bar and therefore part of a contracted word; s at the end may be a mark of abbreviation, a stop, or a sign = κατ'. I have no interpretation for the intervening letters.

2. Fragment of plaster painted yellowish green (0·06 × 0·055) and inscribed with letters which have been scratched and subsequently coloured red (fig. 5, 2).

[I should like to record my sincere thanks to Miss Reynolds for her work on these inscriptions. R.M.H.]
L. 1. The name of Abraham may have been part of a phrase such as θ(ε)τος Ἀβραὰμ καὶ Ἰσαὰκ καὶ Ἰακὼβ, cf. SEG VIII, 754, or of an invocation of the type in SEG VIII, 240, Ἄγιε Ἀβραὰμ βασιλεὺς τῶν δουλῶν σου. It probably appears also in two graffiti (see below), which may suggest that he was especially honoured here. For a collection of formulae involving Abraham and his cult, see Cabrol-Leclercq s.v.

Fig. 5.—Wall-plaster from Room C

B. The Mosaics in the Nave. Two rectangular panels (1·01 × 2·06 and 1·095 × 1·90) each containing a female orans standing between two pillars that support a conch (pls. IX, X); a inscribed on either side of the head, b above it.

Letters: a, av. 0·085; C.
b, av. 0·085; [C.

a Κτήσις (sic)
b Κόσμημα (sic)

For Κτήσις = Possession, cf. Ἐπιτεκτικός = Acquisition on a relief from Thyrea; see N. Svoronos, Das Athenaeum Nationalmuseum i (Athens, 1908), pl. LV, and the discussion by Doro Levi, Antioch Mosaic Pavements (Princeton, 1947) i, p. 278, referring to the suggestion of G. Downey, Church History x (1941), 372 f., that the derivation of the name Κτής, which appears on Antioch pavements, might be from Κτῆς as well as from Κτήσις. At Ras el-Hilal Κτής = Possession would have to be explained as an essential precursor to the expenditure involved in Κόσμημα = Adornment (cf. Doro Levi, loc cit.), but the sense Κτήσις = Foundation is much more in point, and that this was the intention of the mosaicist seems to be confirmed by the appearance of Κτής and Κόσμημα together on panels flanking the representation of a town (πόλες ὡς θεοσωφίας) in the sixth-century mosaic at Gāzr el-Lebia, see R. G. Goodchild, ILN 14 December 1957, J. B. Ward Perkins, Rev. Arch. Crit. xxxiv (1958), p. 188 f., J. M. Reynolds, Journal of Theological Studies lxi (1960), p. 21, SEG xcviii, 768, A. Grabar, Cahiers Archéologiques 12 (1962), p. 115 f. The mis-spelling, however may give support to the suggestion that there were alternative derivations.
SIXTH-CENTURY CHURCH AT RAS EL-HILAL, CYRENAICA

Abstractions of this type, including examples of Κρίων although not of Κόσμηνος, occur elsewhere, notably on mosaics of the fourth and fifth centuries at Antioch on the Orontes and its neighbour Daphne (IGLS iii, 750, 1014). General considerations favouring their development in late antiquity are put forward by C. R. Morey, The Mosaics of Antioch (New York, 1938), p. 39, G. Downey, TAPA lxix (1938), p. 349 f. and Church History, loc. cit., Doro Levi, loc. cit., p. 253 f. and in IGLS iii, 750 n., where a view that they stem from the increasing conventionalism of the period is preferred to that of Downey and Morey, who connect them with an effort to escape the insecurities and difficulties of the times.

Of these particular abstractions, Κρίων appears first in pagan contexts that express the various virtues, interests and activities of a founder (cf. IGLS iii, 750), or, sometimes, in connection with the cycle of the seasons, cf. IGLS iii, 1016 at Daphne, where Κρίων appears to be equated with Winter. Grabar, loc. cit., p. 135, argues that the Κρίων and Κόσμηνος of Gar-el-Lēbia occupy positions which in some other mosaics are occupied by actual portraits of the founders, as in the mosaic (dated A.D. 335) of the Church of Saints Cosmas and Damian at Jerash; see C. H. Kraelting, Gerasa (New Haven, 1938), pl. lxxiii. It is perhaps worth noting that one of the Jerash donors is represented as an orans. There can in fact be no doubt that Κρίων and Κόσμηνος at Ras el-Hilal represent the personified acts of donors.

C. Graffiti. These are all extremely difficult to read and the interpretations offered are entirely tentative.

1. Scratched in various hands on the E face of the E wall of room C (see pl. XIII, a).

a

L. 1. Perhaps + βο(ηθε) κελα' + 'Νειού. But βο(ηθε) με is just possible at the beginning.
L. 2. ΒΕΝΟΝΙΑΔΕΚΑΤΙΟΚΟΜΙΝΟΝΑΠΑΣΑΩ, MINICON is presumably for μικρον; Abraham (abbreviated, as shown by the sign ρ) might be the name of the suppliant, but is perhaps rather that of the Prophet who is invoked (cf. above, A 2, and another graffiti below).
L. 3. ΔΙΒΑΝΕΟΚΝΙΟΚΑΝΟ; perhaps names of suppliants; for Κελα' see also l. 1.
L. 4. ΑΝΑΠΕ Υ It is tempting to see here the vocative of an erroneous form of 'Ἀνδρας
L. 5. Α[N]ΑΠΕΥ which appears in the nominative, see b; but there can clearly be no certainty on this point.

b

Apparently ... )ΑΠΙΑ
ΑΝΔΡΕΥΑ

The most obvious interpretation is that these are the names of suppliants— ... σαλα and 'Ἀνδρας

2. Scratched in several hands on a wall (the S. springing of the arch) facing that of l.

a Πέτρος
b ΑΩΑΚ[ ... or ΑΝΑΙĆ[ ... ; the reading is too uncertain to permit interpretation.

c ΑΞΕΟΥ Perhaps part of a name.
d ... ]ΙΑΔΜ Perhaps intended for 'Αβραμ, see 1 a, 1.2, above.

3. Scratched in various hands on the inner face of the E wall of room D.

a ]ΔΗΡΝΟ[ b ΠΙΟΝ[ c Χ(ρίσ)τε
4. Scratched in several hands within panels defined by scored lines on the N. face of the S. wall of the N. aisle. (See pl. XIII, b). I have not so far succeeded in extracting an intelligible reading.

D. Re-used material. Block of brown limestone, trimmed down on all four sides (0·325 × 0·49 × 0·165), inscribed on one face. The upper R corner has been broken away, and there are a number of holes and chips on the surface, which is also in places obscured by a hard deposit. (Pl. XII, c).

Letters, fourth century: ll. 1, 2, 0·04–0·045; ll. 3, 4, 0·035–0·04.

[? DDDDDNNNN]
[FLVA]LCONSTANTINO[PF]
[IN]VICTRM[A]XAVGE[T]
[FL]CLCONSTANTINO[ET]
[FLIV]LCONSTANTIO[ET]
[. . . erased line . . .]
[? . . .]

[? D(ominis) n(ostris)]
[Fl(aui)](e)r(ieo) Constantino[p(io) f(elici)]
[Fl(aui)] CL(audio) Constanti[no]
[Fl(aui)] Iu[li]o Constantio[et]
[Fl(aui) Iul(io) Constanti]
[? nob(iissimis) Caes(aribus)]

L. 1. Some such introductory formula seems to be needed, and, if the text was symmetrically arranged, there was no room for it at the beginning of l. 2.

Ll. 2, 3. The surviving words show that Constantine's titles were set out in a form that seems not to be exactly paralleled. What is suggested gives good spacing and layout; but it is possible that PF was omitted altogether, or appeared at the beginning of l. 3 in place of IN and that the rest of l. 3 should be interpreted as viet(o)r(i) m[a]x[imo] Aug[usto].


L. 5. Constantii II, Caesar from 8 October 323.

L. 6. Constans, Caesar from 25 December 333. The name will have been erased after his death in 350, during the ascendancy of Magnentius, who is known to have been recognised in Cyrenaica, cf. Socrates II, 25.8. For other African inscriptions showing the erasure of Constans' name at this period, cf. CIL viii, 7012, 7013.

L. 7. The addition of a title for Constantine's sons is certain. There may also have been other lines giving either the mileage from the caput viae or the name of the dedicator (see below for the purpose of the monument).

The monument was erected between 25 December 333, when Constans was made Caesar (see l. 6), and 22 May 337, when Constantine the Great died.

Its original position is unlikely to have been far from the church in which it was re-used; but since the area is rural and has produced only one other inscription apart from the texts in the church (a boundary-stone of A.D. 74 from an estate inherited by the populus Romanus from Ptolemy Apion, the last king of Cyrene), it is possible that it should be interpreted not as an expression of local loyalty or gratitude to the imperial family, but as a milestone of unusual shape. In fact a milestone of similar appearance and Constantinian date has been recently found at Apollonia.

J. M. REYNOLDS
APPENDIX II: The Arabic Inscriptions

Arabic inscriptions of the Umayyad period are rare, no more than about two score being known. Of the six published here the first was cut directly upon stone, the rest incised in stucco (Fig. 6).

1. Western face of the northern jamb of the central doorway from vestibule to nave. The text is written vertically, from top to bottom, and contains a name, together with the names of father and grandfather; Khalifa here is probably a name, preceded by bn, 'son of,' rather than a title, 'lieutenant.' The gentilicium is perhaps al-Yahsubi, 'of the tribe of Yahsub.'

2. Northern pier of arch across north aisle (pl. XII, b). The second half of the

45 I am very deeply indebted to Dr. Stern for consenting to add a note on these texts, particularly in view of his other heavy commitments at the time. He had only my photographs to work from, and believes that some of the readings could be improved. R.M.H.

46 As a glance into the Répertoire chronologique de l'épigraphie arabe shows. In Tripoli a Kufic inscription dated 75 A.H. was incised on the Arch of Marcus Aurelius; cf. R. Bartoccini, Guida del Museo di Tripoli (1923), p. 43.
inscription (ll. 6–10) is fairly clear: ‘Written [in] al-Muharram, [in the year] 104. by [Abū] ‘Urwa Shihāb, son of Ibrāhīm.’ The preposition ‘in’ (fī), between ‘written’ (katabahu) and al-Muharram, must be supplied at the end of the line where the stucco is damaged; similarly, sanata, ‘in the year,’ has been lost. ‘Ibrāhīm’ appears without the initial alif (an oversight, or vulgar pronunciation Brāhīm), but ‘Shihāb, son of Ibrāhīm’ is certain, and the additional name Urwa can only be part of the kunya ‘Abū ‘Urwa’ preceding the name proper. One might also read fī gḥazwat, ‘at the raid of Shihāb, son of Ibrāhīm’; cf. No. 3, below.

The text begins ‘Abd al-Raḥmān, the son of Ziyād.’ This is followed without any conjunction by the name Aḥmad, after which ‘son of’ may be lost at the end of the line; if so, l. 3 would give the father’s name. An alternative might be aḥmadu, ‘I praise.’ l. 4 possibly wa-maskanuhu, ‘and his dwelling-place,’ followed by fī dayr al-mḥ . . . , ‘in the monastery of al-Māḥ . . . (or al-Maj . . . , or al-Makh . . . ).’

3. Eastern face of east wall of Room C (pl. XII, a). ‘ . . . ‘Abd Allāh the Blue, son of Tha’lab, of Ḥims.’ Whether the niṣba is really al-Ḥimṣ, ‘of Ḥimṣ’ (Emesa in Syria), is not quite certain. ‘and he wrote it in the year two and . . . ’ The decade is illegible. What follows is the name of the writer (‘ . . . the Black (al-aswad) son of Ḥasan?’) or ‘at the raid ([fī] gḥazwat) of al-Aswad, the son of . . . ’; cf. No. 2.

4. Eastern face of east wall of Room D (pl. XII, d). ‘ . . . God (or: . . . Allāh, as a name) . . . the son of Abu’il-Qāsim . . . and . . . and exhorts to piety (?) towards God . . . and exhorts to this . . . God . . . ’


6. Southern pier of arch across south aisle (pl. XII, e). ‘ . . . son of Abu’il-Qāsim . . . exhorts to piety (?) towards God . . . an exhortation . . . ’ Cf. No. 4, above. bi-burr, ‘to piety,’ is virtually certain, in view of dots in both inscriptions marking the b’s.

S. M. STERN

ADDENDUM. During the excavation several unstratified small fragments of transparent, light-green, flat glass (c. 0.005 m thick) were thought—perhaps mistakenly—to be modern and were discarded. This might indeed have been ancient window-glass (cf. p. 10, above).

R. M. H.

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47 Muharram, 104 A.H. = June-July, A.D. 722. This is fairly good Umayyad lettering of the monumental type, in contrast to the rather rounded letters of No. 3 below. Diacritical marks: the šā with three dots below to indicate Š (l. 4) and with three dots below to indicate Sh (l. 9); perhaps also dots below the b (ll. 9 and 10), and a dot below a final n (l. 10).

48 This need not imply that there was still a Christian community: the name may have been preserved, although the church was now in ruins.

49 This is a date less than A.H. 100.
VIAE ANNIAE

Two viae Anniae are known, in Etruria and near Aquileia; another has been reasonably conjectured between Capua and Rhegium. The Etruscan Annia was a minor road and is of only peripheral importance, but the relationship of the other two roads and the date (or dates) of their construction have provoked lively discussion in Italy in the last ten years. The question is a complicated one, and perhaps does not admit of a decisive solution. However, one answer to it has recently found widespread acceptance, and I believe that an alternative suggestion, even if not formally provable, may justifiably be put forward in order to prevent the current theory from crystallising into dogma.

The current theory, which rests on the powerful authority of Professor Degrassi,\(^1\) is that P. Popillius C.f.P.n. Laenas, cos. 132, built both the Capua-Rhegium road and the Via Popillia from Ariminum up the Venetian coast at least as far as Atria, where the milestone bearing his name was found;\(^2\) before his programme was fully carried out, however, Popillius' term of office ended and the commission was transferred to a praetor of the next year, T. Annius Rufus, who extended the Venetian road from Atria or Patavium to Aquileia and completed the road to Rhegium by setting up milestones, one of which was found near Vibo Valentia several years ago.\(^3\) Prof. Degrassi thus accepts Mommsen's identification of P. Popillius Laenas as the author of the acephalous elogium at Polla set up by the man who built the Capua-Rhegium road, and rightly rejects Mommsen's suggestion that the Venetian Via Annia ran northwards into Noricum.\(^4\)

This scheme is attractively simple, but certain obvious difficulties are presented by it. There is no parallel for two different roads being built by the same man in the same year (especially two roads at opposite ends of Italy),\(^5\) nor is it easy to see why Popillius had to hand his programme over to Annius; surely a road-building commission, like any other provincia, could be extended for a further year? Even more serious, the author of the Polla elogium claimed to have built the Capua-Rhegium road and set up the bridges, milestones and tabellarei himself; what need was there for Annius as well?\(^6\)

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1 Degrassi, '55 and '56 (for bibliographical abbreviations, see following page). Accepted by e.g. Panciera, pp. 50–51; Fraccaro, '59, 10–11; J. Marcello, La via Annia alle porte di Altino (Venezia 1956), p. 10; L. Berti and G. Boccuzzi, Scoperte Paletinologiche e Archeologiche nella provincia di Treviso (Firenze, 1956), p. x. Broughton and Gray are non-committal: MRR Supplement (1960), 5–6, Greenidge and Clay, Sources (1960), 4–5.

2 ILS 5807. Mansueli, 39, 56 for Ariminum and not Forum Popillii as the Popillia's starting-point.

3 NS 1953, 343, ILLR 454a: 'T. Annius T.f. pr.'

4 Mommsen, CIL i, pp. 154–155; v, p. 935; Degrassi '55, 263; Brusin '49–50, 126.

5 As Ferrua observes (p. 241), if the Rhegium road was an Annia and all three were built by consuls, we should in any case have to assume that two of them were built by one of the two consular Annii. However, (i) if an Annius built the Rhegium road, it was as praetor or praetor (see below), and (ii) the Etruscan Annia was a comparatively minor road and could conceivably have been built in the same year as either of the others; the simultaneous construction of the two important highways to Aquileia and to Rhegium is a different matter. See also Addendum, p. 37.

6 CIL i, 638, ILLR 454: 'viam fecei ab Regio ad Capuam et in ea pontes omnem milliarios tabellarios posievi.' Degrassi ('55, 261; '56, 39) avoids this objection by suggesting that the author of the elogium did not claim to have set up all the milestones, but just all the bridges. Whether or not this interpretation is accepted, the language of the elogium does not imply that there was enough still incomplete to merit a new appointment to finish the job.
These objections may not be fatal to the current theory, and it must be admitted that alternative suggestions are not entirely free from difficulties either. But a closer study of the roads in question will, I think, provide good grounds for accepting a different solution. In the following discussion section 1 covers the Venetian Annia, section 2 the road to Rhegium.  

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This article has been much improved by criticisms and suggestions made by the Director of the British School, by Mr. G. D. B. Jones, and especially by Mr. M. W. Frederiksen, to all of whom I am very grateful.

1. THE VENETIAN VIA ANNIA

The Venetian Via Annia is mentioned in two Imperial milestones (or rather commemorative tablets) from the district immediately north-west of Aquileia, and in the inscription of a IIIIvir i.d. L. Terentius T.f., assigned by Mommsen to Aquileia but possibly originating elsewhere. Local placenames and medieval documents also suggest the existence of a Via Annia in and to the south of Padua. One of the stones concerned, now lost, records the restoration by an unknown emperor of the ‘viam Anniam longa incurs[ā] neglectam influentibus palustrib. aquis eververatam.’

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7 For the Etruscan Annia, between Sutrium and Falerii Veteres, see ILS 1058, 1059, 1109; CIL ii, 1532; iii, 1458; AE 1926, 77; M. W. Frederiksen and J. B. Ward-Perkins, PBSR xxv (1957), 190-193.
8 CIL v, 7992 (ILS 5860), Brusin '49-50, 125-127, cf. CIL v, 7992a. CIL v, 1008a (ILS 5375); Panciera (49 n. 9) suggests a provenance from Altinum or Concordia, and T. Terentii occur comparatively frequently in Patavium.
9 See below, p. 28.
This reference to flooding is sufficient to disprove Mommsen’s theory that the Annea ran north, and there is now no doubt that it was in fact the road west from Aquileia to Concordia and beyond, marked by a series of imperial stones discovered at various times north-west of Aquileia and between Altinum and Concordia.\textsuperscript{10}

If the natural assumption is made that the Annea was built by a consul or a censor, as were almost all the Republican public roads, then the date of its construction was either 153 or 128, the consulships of T. Annius T.f. Luscus and T. Annius Rufus respectively; no Anni were recorded as censors. Most authorities have attributed the building of the road to Luscus, who was one of the \textit{IIIvirii} responsible for the second colonisation of Aquileia in 169,\textsuperscript{11} and this is a fair inference if one remembers the connection of Roman consular roads with colonial foundations. The Roman system of planting colonies in recently-conquered territory, to hold down a subjected people and to serve as bases for further advances, naturally required efficient communications, and several roads seem to have been laid with this in mind as part of colonial programmes. The Via Valeria, for instance, was probably named after the censor M. Valerius Maximus, who with his colleague in 306 made ‘annis per agros publica impensa,’ no doubt in connection with the contemporary operations against the Aequi and Paeligni and the colonisation of Alba Fucensis and Carseoli in 303 and 298 respectively; similarly the foundation of the Latin colony at Bononia in 189 was immediately followed by the construction in 187 of the Via Aemilia from Ariminum and the ‘Via Flaminia minor’ to Arretium.\textsuperscript{12} The chronological link between the Via Annea and the colonisation of Aquileia is less close, but Luscus’ connection with that colonisation is a strong argument in favour of his being the constructor of the road.\textsuperscript{13}

Fraccaro\textsuperscript{14} rightly remarked that the foundation of Aquileia made necessary an improvement in communications with the new colony, and it would be remarkable if the first public road built to Aquileia ran not from Ariminum or Bononia, whence there were good roads to Rome, but west to east from Placentia and Verona. Yet this is the situation implied if the Annea is not dated to Luscus’ consulship, for the Via Postumia, the great road from Genua through Placentia and Verona to Aquileia, was constructed by the consul Sp. Postumius Sp.f.Sp.n. Albinus in 148.\textsuperscript{15} However necessary Postumus’ road was to consolidate the Roman conquests in Transpadana, it is unlikely that no more direct route from Aquileia to the south dated to 117, but a L. Metellus of uncertain affiliation was \textit{cos}. 283; Castrum Novum and Hatria were founded between 290 and 286, Amiternum subject in 293 (\textit{Livy} \textit{per.} xi, x, 39.3).

\textsuperscript{10} See Panciera, pp. 49, 51–52 and notes. (With reference to the \textit{viae} Annea and Postumia, the name ‘Concordia’ is used throughout as shorthand for ‘the site of Concordia’; the colony itself was founded only under the \textit{Triumvirate}.)

\textsuperscript{11} E.g. G. F. Chilver, \textit{Cisalpine Gaul} (1941) 34, n. 8; A. Calderini, \textit{Aquileia Romana} (1930) 251; Brusin \textit{49}–\textit{50}, 116. \textit{Livy} (xii, 17.1) puts him first of the three, before M. Cornelius Cethegus, \textit{cos}. 160, but this need not mean that he was Cethegus’ senior; compare \textit{Livy} xxxiv, 45.1–5, 53; 2, on the colonisations of 197 and 194, with \textit{Marc.} i, 354, 343.

\textsuperscript{12} \textit{Valeria} : \textit{Livy} ix, 43.25, cf. Diod. xx, 101.5, \textit{Livy} ix, 41.5, x, 1.1. \textit{Aemilia and Flaminia : Livy} xxxiv, 2.6, 10. Note the road built by a L. Caecilius Q.f. Metellus through Amiternum to Hatria (\textit{ILS} 5810, 5749; \textit{NS} 1896, 97); usually

\textsuperscript{13} It is odd that the road was not built at the time of the colony’s foundation, but there must have been a pre-Roman route into Venetia from the great Etruscan \textit{entrepôt} at Bologna (see below, n. 38), and before the Roman road was built traffic to Aquileia presumably used that, or went by sea. When it was recognised that this route was insufficient, perhaps as a result of a renewed Istriano war, the task of replacing it may well have fallen to Luscus, who as an \textit{ex-Hesit} must have been one of the patrons of the colony.

\textsuperscript{14} 59, 8.

\textsuperscript{15} \textit{ILS} 5806 (\textit{ILLR} 452). Fraccaro ‘52 \textit{passim}.  

\textit{Viae Anniae} 23
Fig. 1.—(the contour shown is at 500 ft.)
had been built before it. Good communications were essential for the Romans in the ill-drained plain of the Po, and it is scarcely conceivable that for nearly twenty years after the building of the Postumia there was still no direct paved road to Aquileia from the south.

A further argument may be added to indicate the priority of the Annia to the Postumia, though here the ground is less safe. But even if the suggestion made below is unacceptable, it is not vital to the dating of the Annia to 153, which can rest solely on the arguments given above.

It was long assumed that from Opitergium the Postumia ran almost exactly due east to Concordia and Aquileia, as indicated in the Peutinger Table. If this assumption is correct, then the Annia and the Postumia must have shared the last stretch from Concordia or thereabouts, and since the Aquileia-Concordia section is called ‘via Annia’ on the imperial inscriptions, then the Postumia must have joined the Annia and not vice versa—i.e. the Annia must be the earlier road. This picture is complicated, however, by the fact that Fraccaro in his excellent article on the Postumia suggested with some conviction that from Opitergium the Postumia turned northwards, following a subalpine terrace of firmer ground in order to avoid the marshy coastal plain. According to Fraccaro the road ran almost due north from Oderzo (Opitergium) to a point between Sacile and Fontanafredda, then turned east again to Codroipo, from where it ran in a more south-easterly direction towards Sevegliano and finally approached Aquileia from the NNW\(^16\) (fig. 2, a).

This view rests on three main points: (i) In general the Romans would avoid marshy ground, a rule borne out by the fact that the Postumia kept to the base of the hills between Dertona and Placentia and between Verona and Opitergium, avoiding the swampy Po valley; (ii) two documents of 1214 record a place Postouyma ‘que est super colle maior de Campo mollo,’ i.e. to the south of the road between Sacile and Fontanafredda;\(^17\) and (iii) the long straight ‘stradalta’ running ESE from Codroipo to Sevegliano must be a Roman road and can hardly be anything but the Postumia.\(^18\) The last two arguments in particular are strong ones, and Fraccaro’s view has understandably won general acceptance;\(^19\) again, however, I feel that the traditional view has been too lightly abandoned.

Roman roads run notoriously in the most direct line consistent with the physical nature of the ground, and although Roman engineers naturally preferred firm ground at the foot of the mountains to marshy plain, I find it hard to believe that they would have made a detour of very nearly ninety degrees from their intended direction\(^20\) in order to avoid ground through which, on any theory, a road was built within the next twenty years. It is true that the Postumia west of Placentia and east of Verona kept to the foot of the hills, but this did not involve any detour,

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\(^{16}\) Fraccaro ‘52, 270–275.

\(^{17}\) Fraccaro ‘52, 272, who identifies Campo molo with ‘la vasta umida R. dei Camoi a sud della strada Sacile-Fontanafredda.’ The IGM map sheet 39 IV NW (Sacile) shows a ‘contrada dei Camoi’ some 2 km. WSW of Fontanafredda (875090).

\(^{18}\) Fraccaro ‘52, 273–274 for Codroipo as *Quadrivium*, i.e. where the *stradalta* crossed Augustus’ road from Concordia to Noricum. See sheets 40 IV NW and NE and I SW (Codroipo, Mortegliano, Palmanova) for the *stradalta*.

\(^{19}\) Cf. for instance Panciera, pp. 52–3; Brusin, *Atti Ist. Ven.* cxxiv (1956), 266; *Tabula Imperii Romani*, foglio L33, Trieste (Roma, 1961)—but see next note.

\(^{20}\) The map in *Tabula Imp. Rom.* softens the angle by indicating a line from Oderzo to Pordenone; but this is hardly justifiable without abandoning the evidence of ‘Postouyma.’
and when the plain of the Po had to be crossed the line taken was dictated solely by the general NNE direction of the road to Aquileia and by the need to touch Betriacum and Verona. The Postumia east of Cremona was built on a high agger, and it is clear that badly-drained land held no terrors for Roman engineers. Indeed, unless the nature of the river Tagliamento has changed since ancient times there was good reason for taking a line close to the coast, where the river runs in one bed and is more easily bridgeable; further north it spreads out into wide marshy channels for a long way after leaving the mountains.

However, what about ‘Postoyma’ and the stradalta? For Postoyma it must be admitted that there is no convincing explanation; one must simply repeat that it was a long way off the natural line for any road from Opitergium to Aquileia, and invoke in despair the large number of place-names in Veneto of obviously Roman origin, not all of which derive from consular roads.

The stradalta on the other hand can I think be explained without reference to the Via Postumia. Two points should be noticed: firstly that Fraccaro could produce no trace of the Postumia between ‘Postoyma’ and Codroipo, and secondly that the Tabula Imperii Romani indicates a secondary road leading NW from near the Codroipo crossing parallel to the ‘fl. Liquentia,’ now the Cellina. This secondary road is marked today by the straight road from Vivaro to Maniago, the line of which reappears NE of Arzene (fig. 2, a); it clearly ran from the crossing of the Tagliamento at ponte della Delizia towards the point where the Cellina valley emerges from the hills.

I should like to make the tentative suggestion that this road and the stradalta are one and the same, running from Aquileia up the Cellina valley over the Passo di S. Osvaldo into the valley of the Piave, to join the branch of the Via Claudia Augusta which ran via the Piave valley and the Drave-Rienza line to the Brenner. Such a road would have provided the shortest route from Aquileia to the Brenner, which could be reached otherwise only via Opitergium or by crossing the Plöcken and ascending the upper Drave valley from the east; if another argument from historical probability may be permitted, it seems likely that Claudius or one of his successors would have linked the great military road from Altinum to the Danube with the most important military centre in the area. However, only detailed exploration of the Cellina pass could prove or disprove this inference.

11 Tac. Hist. iii, 21.2; note the contrast between the agger and the 'patenti campo.'
12 Admittedly the ponte della Delizia near Codroipo crosses the least wide point on this stretch of the Tagliamento (see fig. 2, a, and sheet 39 I NE Casarsa della Delizia), which is no doubt why the Roman stradalta, whether or not it was the Postumia, was directed to this point: see below, n. 27. But the river is still easier to cross further south.
14 Fraccaro '52, 274. Only a chapel ‘della maestra’ (indicating a via maestra?) 2 km. NW of Pordenone—sheet 39 IV NE (Pordenone) 942057.
15 See fig. 2, a. Sheet 24 II SE (S. Giorgio della Richinvelda) 010141 etc. for the Arzene stretch; the road NW of Vivaro is best seen on sheet 24 II NW (Arba).
16 See fig. 1. The identity of the Piave valley road as the Via Claudia Augusta ab Altino was claimed by the authors of La via Claudia Augusta Altinate (Ist. Veneto, 1938), challenged in a review by Fraccaro (Opuscula vol. iii (1957), 229-232) and elsewhere, and has recently been restated, with a full bibliography of the discussion, by C. Anti in Studi in onore di Aristide Calderini e Roberto Parisini vol. iii (1956), pp. 495-511. The decisive argument is surely the commemorative stone (ILS 208) found at Cesio, 10 km. NE of Feltre, which is difficult to reconcile with a road heading towards Tridentum.
17 The bend in the line from Aquileia to the Cellina valley will have been caused by the necessity of crossing the Tagliamento near Codroipo. See n. 22.
18 The narrow and spectacular Valcellina and
I suggest, therefore, that the Postumia ran more or less due east from Opitergium towards Aquileia, joining the Annia somewhere near Concordia, and that the latter was therefore the earlier road, since the Concordia-Aquileia section was certainly called the Annia. This suggestion supports, but is not essential to, the arguments already expressed in favour of dating the Anния to 153. The next question is the route of the Anния south of Altinum and its relation to the Via Popillia of 132.

According to Brusin, the only fixed point south of Altinum is the village of Agna between Padua and Adria—‘più in là mi pare si branccoli nell’ oscuro.’ However, several precious indications in mediaeval documents collected by the nineteenth-century Paduan antiquary Andrea Gloria offer some guidance to our groping.

One would expect the Anния to have run from Altinum to the important city of Patavium (Padua), and this may be confirmed by Gloria’s record of Strada and Agnaniano as placenames between Mestre and Padua. South of Padua the straight road leading SSE to Bovolenta and the village of Agna almost in line with it in the direction of Adria (fig. 2, b) suggest that the Anния ran from Patavium to the latter town, the ancient Atria; evidence from the documents, however, indicates a different line. An edict of Gerard, bishop of Padua, dated 1 September 1180 dealt with ‘terra . . . que iacet in finibus Padue supra viam que dicitur Agna que vadit ad Abbanum,’ a clear reference to a Via Anния apparently leaving the city to the SSW.

A document of October 1069 refers to a ‘via publica que dicitur Agna’ in a region called Verzegnano, the whereabouts of which is now unfortunately unknown; documents of the twelfth and thirteenth centuries refer to places called Agna at Favrese and at Masera on the road leading out of Padua to the south towards Conselve. An extension of the line from Padua through Masera leads to the village of Tribano, south-west of Conselve; at Tribano, according to the announcement of a donation made in January 954 by Almericus, ‘marchio et dux ex genere Francorum,’ there was a via antiqua which may well have been the Anния. Since the documents collected by Gloria give no other Agna references, it is fair to conclude that the Anния ran via Masera and Tribano in the direction of Rovigo and Ferrara. Neither the Padua-Agna-Adria line, of which the village-name is the sole indication, nor Gloria’s own suggestion, that the Anния ran via Monselice and Legnano to Hostilia, can offer such convincing evidence.
If this is accepted, we have the Annia running slightly west of due south from Patavium, clearly not bound for Atria. This disproves the theory of Annius Rufus' co-operation with Popillius, since the one certain thing known about the Via Popillia is that it went through Atria. But if not to Atria, where did the Annia go south of Patavium?

Here we may invoke a notorious passage of Strabo, to the effect that M. Aemilius Lepidus, cos. 187, built the road μέχρι Βονωνίας, κάκεδεν εἰς 'Ακυλαιαν παρὰ τὰς μέσες τὰς τῶν Αλπεων, ἐγκυκλούμενος τὰ ἔλη. As all commentators remark, Strabo is confused here. However, it is highly probable that in his day (and long before) there existed a road from Bononia to Aquileia round the marshes, if not at the foot of the Alps. There were two viae munitae over the northern Appenines from Rome in the second century, the Flaminia to Ariminum and a road from Arretium to Bononia constructed by the younger C. Flaminius as cos. in 187, the latter road being linked with Rome by the Via Cassia, built some time in the second century not before 171. Fast communication from Rome to Aquileia would therefore have to go via Bononia or Ariminum, and the Ariminum-Aquileia link was not made until Popillius' consulship in 132. The Annia, then, as the first line of communication between Aquileia and the south (if our assumption is correct), will probably have crossed the Po valley from Bononia, and this is consistent with the line indicated in the Paduan documents.

A further document, an edict by the Doge of Venice in April 912, mentions a place Pupilia, probably in the direction of Cavazere on the Adige, as one of the limits within which the people of Chioggia were responsible for transporting goods for the Doge. Whether Pupilia was near Cavazere or not, any place of that name in the territory of Chioggia suggests that the Via Popillia north of Atria did that Annius built a branch road from the port of Atria to Patavium to deal with traffic coming from Ariminum by sea in order to avoid the Po marshes.

Certainly there was at some date a Roman road between Bononia and Padua, though no traces of it remain. See Mansuelli pp. 41, 44; the route may be followed by the evidence of Roman settlement at S. Giorgio di Piano, Ghergenzano (sheet 75 II SE 927690), Gavasete (961712), and Maccaretolo (965729); from there it went presumably through Poggio Renatico, Ferrara and Rovigo.

The route was an old one; there had been traffic between Bologna and Venetia in pre-Roman times, as is proved by the Etruscan influence on Venetic art and language. 'If the native Atesine work of the third period shows some Ionic and some Oriental influences ... the route by which such influences came there was not along the Adriatic but from western Italy through Etruria and Bologna' (J. Whatmough, The Foundations of Roman Italy, Methuen, 1937, p. 181). Since Whatmough wrote the discovery of the Etruscan city at Spina and Etruscan and Villanovan settlements at Ravenna have proved the existence of a coast route, but the density of Villanovan and Etruscan sites along the passes from Florence and Pistoia to Bologna show clearly that these formed the main route. (The location of Venetic, Villanovan and Etruscan sites is shown on the map in the Catalogue of the Mostra dell'Etruria Padana e della città di Spina (Bologna, 1960). No inferences can be made from their location about pre-Roman routes within Venetia, except that few of the Venetic settlements are situated in the plains.)

Cassii were consuls in 171, 164, 127, 124, 107, 96 and 73, censors in 154 and 125.

According to a Ravennate document of 1299, there was a place Aognavia in the territory of Forum Cornelli. Regesta della chiesa di Ravenna (Regesta Charterum Italiae, Ist. Storico Italiano, 1931, vol. 2, p. 262: 'territorium Corneliense et plebatu S. Apolinaris q.v. Aognavia.' However, this is probably a red herring, since the parish of S. Apolinaris in Imola (Forum Cornelli) included a fundus known as Aquaviva, which is probably what the Ravennate scribe had in mind. I owe this information to Mr. P. A. B. Llewellyn, who quotes a document of January 1033 from the archives of S. Lorenzo in Imola: '... possessiones quas habet in terr. Corn. videntes fundos Aquavivae cum ecclesia S. Apolinaris.'

Gloria 77, no. 28 (p. 42): 'usque ad Caput argere et ad ... usque ad Pupilia.' Fraccaro (59, 9) thought that this could be a reference to the island of Poveglia in the lagoon NW of Malamocco, but this was an unnecessary subtlety forced on F. by the need to preserve Degrassi's theory.
not go to Patavium but kept to the coast. It must have joined the Annia somewhere east of Patavium, perhaps at the place ‘ad Portum’ shown on the Peutinger Table, which is identified by Gloria with the present-day Porto Menai. Clearly it was decided, perhaps (as Degrassi suggests) in connection with Sempronius Tuditanus’ Istrian and Ilyrian expedition in 129, that another route to Aquileia was needed, taking advantage of the quicker crossing via the Flaminia to Ariminum and thence following the shortest route round the coast.

Such a line for the Popillia, passing to the east of Patavium, suggests that in 132 there already existed a public road to serve that important city, and weakens yet further the idea that the Annia and the Popillia were virtually the same road constructed in two successive years.

To sum up this section: (i) the date of 153 for the construction of the Via Annia is indicated by Annius Luscus’ connection with Aquileia and by the likelihood that the first road built to Aquileia will not have been the Postumia from the west but a more direct link with the south, an argument which would be strengthened if the Annia’s priority to the Postumia could be proved by showing that the latter ran due east from Opitergium towards Aquileia; (ii) the survival of the names in mediaeval documents suggests that the Annia and the Popillia were separate and independent roads, the former running through Patavium to the south (probably to Bononia), the latter apparently passing east of Patavium to Atria and Ariminum. The case for Annius Rufus as praetor continuing Popillius’ programme in 131 has thus, in the north at least, not the slightest foundation.

2. THE ROAD FROM RHEGINUM TO CAPUA

The building of the road from Rhegium to Capua was recorded by its unfortunately anonymous constructor on the celebrated elogium discovered at Polla in the Lucanian val di Diano: VIAM FECEI AB REGIO AD CAPVAM ET | IN EA VIA PONTEIS OMNEIS MILIARIOS | TABELARIOSQVE POSEIVEI HINCE SVNT | NOVCERIAM MEILIA LI CAPVAM XXCIII | MVRANVM LXXIII COSENTIAM CXXIII | VALENTIAM CLXXX AD FRETVM AD | STATVAM CCXXXI REGVM CCXXXVII | SVM AF CAPVA REGIVM MEILIA CCCXI | ET EIDEM PRAETOR IN | SICILIA FVGITEIVS ITALICORVM | CONQVAEISEIVEI REDIDEIQVE | HOMINES DCCCXXVII EIDEMQVE | PRIMVS FECEI VT DE AGRO POPLICO | ARATORIBVS CEDERENT PAASTORES | FORVM AEDISQVE POPLICAS HEIC FECEI.

From the mention of a Forum Popilli in the Peutinger Table and by the geographer of Ravenna some fourteen miles past the Nares Lucanae, Mommsen deduced that the constructor of the road was P. Popillius Laenas, cos. 132. This view was long unchallenged, but the almost simultaneous publication of a milestone from Vibo Valentia with the name ‘T. Annius T.f. pr.,’ and an article by Vittorio Bracco

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43 Sheet 51 III NE (Mirano) 541492. Gloria *'81, 103.
44 '55, 265; '56, 40. 
45 CIL 13, 638 ([ILS 23, ILLR 454]).
Contour level at 5000 ft.

Fig. 3.
containing independent arguments for considering the road a Via Annia \(^{45}\) sparked off a discussion which forced the defenders of the traditional view to adopt the theory criticised above and to invoke the Venetian Annia as evidence for cooperation between Popillius and Annius Rufus in 132 and 131.

Bracco produces two strong arguments in favour of attributing the road to an Annius. First, Sallust *Histories* III 98M on Spartacus’ route out of Campania in 73: ‘nactus idoneum ex captivis Picentinis deinde Eburinis iugis occultus ad Naris Lucanas atque inde prima luce pervenit ad Anni forum ignaris cultoribus . . .’; a clear indication of a Forum Annii on the road from the Nares Lucanae into the Val di Diano, the ‘laxiores agri magisque pecuarii’ where Spartacus was hoping to recruit more slaves. Secondly, two imperial inscriptions\(^{46}\) record *curationes* of the ‘viarum Appiae Traianae Anniae cum ramulis’ and the ‘viarum Anniae [Traianae? Aur]eliae novae cum [ramulis],’ which imply that the Via Annia, like the Appia and the Traiana, was an important road in the south of Italy. These texts plus the Annius milestone from Vibo offer a powerful *prima facie* case for a Via Annia as opposed to a Via Popillia.

The main objection to this case is of course the Forum Popilli mentioned by the geographers. Bracco\(^{47}\) rightly allows three possible solutions: that the name was changed, that there were two *fora*, or that the geographers’ common source made a mistake. He prefers the last, but this (like the first) seems improbable.\(^{48}\) It is more likely that there were two *fora*: Forum Livii and Forum Popilli on the Aemilia provide a parallel for two *fora* close together.\(^{49}\) Nissen\(^{50}\) would place Forum Annii at the confluence of the rivers Tanagro and Bianco, and this would give Spartacus’ army, which was at the Nares at night, time to reach it by daybreak. However, too much reliance should not be put on the details of Sallust’s account, which certainly does not exclude the possibility that Spartacus, who was travelling by road and not across country, could have marched straight from the Nares into the *val di Diano*; this is an easier assumption than that a *forum* was built not in the fertile upper valley of the Tanagro but in the rough and hilly area below it. It is possible, then, that Forum Annii and Forum Popilli were both situated in the *val di Diano* with perhaps only a few miles between them,\(^{51}\) and that the Polla *elogium* may have come from either.

In neither of the articles that he devotes to opposing Bracco’s theory does Prof. Degrassi mention the imperial *curatio* inscriptions which refer to the Annia. Father Ferrua however, recognising their importance, makes a gallant attempt to deal with them by referring them to the Etruscan Via Annia:\(^{52}\) the Via Aurelia Nova mentioned in one of them must, since a ‘nova’ implies a ‘vetus,’ have been a variant section of the famous Aurelia up the Etruscan coast, possibly an alternative route to it out of Rome; similarly the Traiana may have been the Traiana Nova,

\(^{45}\) *NS* 1953, 343. Bracco ‘54, repeated more succinctly in ‘60.

\(^{46}\) *CIL* vi, 3138a, 31370.

\(^{47}\) ‘54, 18–22.

\(^{48}\) Cf. Ferrua, 238–239.

\(^{49}\) Mr. Frederiksen points out to me that Forum Claudia (Ventaroli) and Forum Popilli (Carinola) in the *ager Falernus* south-east of Suessa were a mere two miles apart.

\(^{49}\) It is to be noticed that if the Rhegium road was not built by a Popillius there is nothing to date the foundation of the Lucanian Forum Popilli.

\(^{50}\) Ferrua, 243–244. See above, n. 7, for the Etruscan road.
VIAE ANNIAE

an improved version of the Via Cassia, or another of the ‘tres Traianaev’ of Etruria.53

But this will hardly do. In the first place, ‘nova’ need not imply ‘vetus’ (compare the Via Claudia Nova in the central Appenines),54 and the existence of a Via Aurelia in the south of Italy is sufficiently proved by an inscription referring to a third-century ‘curator viar. Traianaev et Aurelaev [et] Acclanensis.’55 Secondly, the Etruscan Annia and Traianaev were normally included in a group that included the Cassia, Clodia, Amerina and Ciminia; thirdly and above all, why should the Via Appia be included with three Etruscan roads? The unavoidable conclusion is that all the roads referred to in the two inscriptions, including the Annia, were in the south of Italy, and that the road from Capua to Rhegium, being the one main road in southern Italy not accounted for, stands a good chance of being the Annia.

There are therefore excellent reasons for accepting Bracco’s view that the Capua-Rhegium road was a Via Annia, particularly if the theory produced by Prof. Degrassi to save the appearances and preserve Mommsen’s identification of the elogium author is rejected, as I have suggested above (pp. 21–30) that it should be. As far as the Rhegium road is concerned, however, Degrassi’s theory has one good point in favour of it: the author of the elogium had been a praetor in Sicily, and the milestone found near Vibo was put up by a T. Annius T.f. praetor. Unless this can be explained, it counts against T. Annius (whoever he was)56 being the author of the elogium. I think that consideration of the route taken by the road to Rhegium and of the nature of the country through which it passed may help to explain this difficulty and cast light on the date of the road and the purpose for which it was built.57

The course of the Rhegium road is mercifully not in doubt: the indications given by the Polla stone, the Peutinger Table, the geographer of Ravenna and the Antonine Itinerary58 show that it ran from Capua via Nola, Nuceria, the Naeres Lucanae, Forum Popilli, Muranum, Cosentia, Tempsa and Vibo Valentina to Rhegium (fig. 3). But why was this route chosen? Anyone who has travelled down the modern Italian strade statali 18 and 19 will realize that the coast road

53 Cf. CIL xiv, 3610, Platner and Ashby, Topographical Dictionary of Ancient Rome, 561; ILS 1038, 1052, 1059, 1093, 1109; CIL ii, 1532; AE 1926, 77; NS 1913, 342; 1925, 36; Frederiksen and Ward-Perkins, PBSR xxv (1957), 192–193.
54 CIL ix, 5959. But see Addendum, p. 37.
55 CIL iii, 1456; probably constructed by Marcus Aurelius.
56 MRR index and Degrassi ’55, 261 for the possibilities; Bracco (’54, 23–25 and ’60, passim) favours Annius Luscus. But if the Venetian Annia was built by Luscus in 153, as argued in section 1, the most likely candidate is T. Annius Rufus, praetor in or before 131.
57 Apart from the historical difficulty of a praetor in Sicilia operating in Italy, there is also the argument reproduced by Mommsen (CIL ii, p. 509), that ‘et eadem praetor’ in line 9 of the elogium implies that the record of the road’s construction that comes before applies to a time when the author was not praetor. This is a serious objection: all the parallel examples in CIL ii (24, 610, 800) express an antithesis with a different magistracy. It is difficult to argue from analogy since the Polla stone is unlike all orthodox elogia in being in the first person; it is possible that the missing first line of the inscription did not mention any magistracy, but just the author’s name, presumably at the foot of his statue. The language certainly implies that the author built the road in some year other than that of his praetorship, but it could have been either before or after, since the order of events need not be chronological—and indeed cannot be if the forum was constructed at the same time as the road. Possibly then Annius’ imperium was prolonged for a further year and he built the road as (pro)praetor with proconsular imperium (cf. McDonald, JRS xliii (1953), 143–144). He could still have called himself praetor on the milestone; for a contemporary parallel, compare M’. Aquilius’ roads in Asia (CIL i, 646–651), too extensive to have been made all in one year, but with milestones all bearing the simple title cos. This solution of the difficulty was suggested to me by Mr. Frederiksen.
58 Summarised in CIL ii, p. 510.
(SS 18), at least south of Sapri, is a much easier route to Reggio (Rhegium) and Sicily than the road through the mountains, which has to cross no fewer than three separate passes of over 3000 feet and is considerably longer, steeper and more tortuous. The answer must be that the road was not intended to provide fast transport to Rhegium and Sicily at all; such traffic naturally went by sea from Puteoli or Velia.

Roman public roads were essentially military in nature; they provided fast communications for armies between Rome and the scene of action, and frequently served to facilitate the control and policing of areas which had either only recently been conquered or were permanent centres of unrest. Examples of the latter were the viae Valeria, Postumia and Aemilia Scauri, which were built in connection with the conquests of the central Appenines, the Transpadanes and the Ligurians respectively, and opened up the territories of these peoples to easier Roman control. I suggest that the Capua-Rhegium road was built for the same reason.

The area covered by ancient Lucania and Bruttium is almost entirely mountainous. The only extensive cultivable land was that formed by alluvial plains at the mouths of the larger rivers, particularly that round Metapontum and Heraclea and the smaller ones of Thurii and Paestum. The Greek cities which occupied these plains had once been powerful and prosperous but by the second century were seriously depopulated as a result of the wars with Pyrrhus and Hannibal; even the plain of Metapontum, which had supplied Hannibal's army with grain, was by Varro's time used in part at least as a winter pasture for sheep.

‘Inculta videantur: Bruttios et Lucaniae saltus persequamur.’ Mountainous, wooded and wild, Lucania and Bruttium were par excellence country for herdsmen and hunters. Boars and hares were hunted in ‘Lucanian snow,’ wild cattle roamed the high forests of Sila in Bruttium. Varro mentions mares in Lucania and sheep in Bruttium; Calabrian flocks spent the summer in Lucanian pastures. The herdsmen employed were usually slaves; the nature of their work meant that their master had little control over them, and Varro even recommended the provision of slave women in their mountain huts to make them completely independent for months at a time. Wild and largely uncontrollable, they provided a perfect recruiting ground for revolutionaries and desperadoes: Spartacus and his band

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60 Lauria-Castellucio, 965 m.; Mormanno-Morano, 1022 m.; Rogliano-Nicastro, 986 m. On the latter pass there were still several inches of snow on 1 April 1963. However, the Roman road probably avoided it by descending the Savuto valley to the coast (cf. It. Ant. ‘ad flumen Sabatium’). The *fiumare* or torrents from the nearby Appenines would complicate the building of a coast road, but similar conditions were overcome in Liguria by Aemilius Scaurus; cf. Strabo iv, 187, on the hazards of the coast road into Narbonensis before the building of the Via Julia Augusta.

61 Cic. Terr. ii, 99, iii, 63, Planc. 65, Att. ii, 1.5, Suec. T. Th. 5, Acta apost. 2813-15. Lucilius 107 ff. M for the road journey: ‘omne ite est hoc labosum atque lutosum.’ Cicero used the road in 58 to go to Vibo (Att. iii, 2, ‘iter esse molestum scio’), but in 44 he went there by sea—Att. xvi, 6.1. According to Sallust, however, an army

62 Livy xxiv, 23, xxxii, 29.4, xxxix, 23.3.


64 Seneca trans. an. 9.13, cf. Festus 392L ‘saltus est ubi silvae et pastiones sunt.’


66 RR ii, 10.6-7, Cf. Tac. Ann. xii, 65, on Domitia Lepida's ill-controlled slaves.
made straight for Lucania to gain manpower after leaving Campania; the Catilinarians provoked disturbances in Bruttium in 63; Milo was sent to Thurii in 48 ‘ad sollicitandos pastores’ in the hope of getting support for Caelius’ schemes in favour of debtors, and opened some of the ergastula before being killed (Caelius meanwhile was in Bruttium, according to Dio, though the versions differ); five years later Hirtius, fleeing from the proscriptions, was able to control Bruttium with a hastily-gathered force of freed slaves and runaways before crossing to Sextus Pompey in Sicily.68

This part of Italy, particularly Bruttium, was by its remoteness and awkwardness of access an excellent refuge for insurgents on the defensive. Hannibal retired to Bruttium every winter after 211 and used it as his base for forays into Campania and Apulia; from 84 to 82 the remnants of the Lucanian and Samnite rebels fought on in Bruttium, having made their way to Rhegium in the hope of reaching Sicily; Spartacus too, after his abortive march towards the Alps, retired into Bruttium and tried to cross to Sicily, and even after breaking Crassus’ attempt to trap him never left the mountains of Lucania except in his last dash towards Brundisium.67

According to Livy,68 brigandage was a ‘mos vitio insitus’ among the Bruttii, and the long coastline also made Bruttium and Lucania particularly suited to piracy. Spartacus had contact with pirates at Rhegium in 72, and Cicero remarks that pirates and fugitivi made the voyage from Vibo to Velia a dangerous one; it is relevant also that Sextus Pompey in 42 was able to control from Sicily all sea traffic to and from Lucania.69 The fugitivi referred to by Cicero were presumably remnants of Spartacus’ army, who roamed Bruttium and Lucania for many years. Verres, on his way back from Sicily, was requested by a local dignitary of Vibo Valentia to wipe out a ‘small band’ in the vicinity (which he did less than efficiently if Cicero is to be believed) and in 60 C. Octavius was commissioned by the Senate to deal with some fugitivi, ’residuum Spartaci et Catilinae manum,’ who were holding the territory of Thurii;70 perhaps the province of silvae callesque reputedly offered to Caesar and Bibulus in 60 was connected with this.71 While governor of Sicily Verres had a certain P. Gavius flogged and crucified as a spy sent to the island by the fugitivi; Gavius was a municeps of a town called in the MSS. ‘Cosa’ and ‘Consa’—just possibly Compia in Samnium, but more likely the mysterious ‘Cosa in agro Thurino’ besieged by Milo in 48.72

The chronic brigandage of the region73 sufficiently accounts for the building of a shepherds and runaway slaves ‘per itinera callium. Cf. also Cic. Tull. 18–19 (Thurii).

68 Sall. Hist. iii, 98M, Orosius v, 24.2, Flor. ii, 8.5; Sall. Cat. 42.1; Caes. BC iii, 21.2, Dio xlii, 24–5; App. BC iv, 43.

67 DioCXXXVII, 2.13, Plut. Crass. 10.4 ff., App. BC i, 92 περὶ τὰ στεφανα, 118 f. etc.

68 Livy XXXVII, 12.8; Cic. Brut. 85 for a caedes in the forest of Sila.


70 Cic. Verr. v, 39–41; Suet. DA 3.1 ‘negotio sibi a senatu extra ordinem dato’—Octavius was going to his province.

71 Suet. DJ 19.2. Compare Cic. Sest. 12 for the danger that Catiline might have seized ‘Italiane calles, pastorum stabula’; and Tac. Ann. iv, 27.1–2 for a quaestor ‘cui vetere ex more calles eavernen,’ sent to deal with a slave-rising in Calabria. CIL ix, 2438 (Saeipinun, 168 A.D.) for the violence of
road through the mountainous interior to provide easier access and control; its close contact with Sicily, where similar conditions prevailed, may indicate the date of the road’s construction. The Sicilian slave wars can hardly have had no repercussions on the mainland, and indeed according to Julius Obsequens there was a ‘coniuratio servorum’ in Italy immediately before the first slave war in the 130’s. It is just possible that the ‘Italici’ mentioned in the elogium, whose runaway slaves were hunted out and returned by its author, lived not in Sicily but in the towns of Bruttium and Lucania; in any case, it is reasonable to postulate a considerable upheaval during the 130’s in south-west Italy as well as Sicily. In addition, one might guess that many Sicilian refugees fled from the avenging Roman armies into the Bruttian and Lucanian hills in 133 and 132.

The construction of a road from Rhegium to Capua by a praetor in Sicily is therefore less unlikely than appears at first sight. Verres’ commission at Vibo proves the obvious point that operations in Bruttium at least could be carried out more conveniently by an official more or less on the spot in Sicily than by a man sent from Rome. Perhaps we may infer that Cicero as quaestor in Sicily in 75 was active also in southern Italy: how else would he have earned the clientela not only of the Sicilians but also of Locri and of ‘omnia municipia quae sunt a Vibone ad Brundisium’? If T. Annius Rufus, perhaps as praetor in 132 with an extended imperium for the following year, was entrusted with the job of helping to finish off the slave war, he could have built the road to Capua as propraetor in 131 to improve communications in Bruttium and Lucania and facilitate the control of any bands of fugitivi who were holding out there. Such an undertaking might well have been necessary as part of the ‘mopping-up’ involved after the slave war, and so could have fallen under the responsibility of a ‘praetor in Sicilia,’ especially if his imperium was proroged for the purpose.

I suggest then that the Rhegium-Capua road was built by T. Annius Rufus as propraetor in 131, that T. Annius Luscus, cos. 153, built the Venetian Via Annia to Patavium and Aquileia, probably from Bononia, and that neither of these roads had any connection with the P. Popilius Laenas who as consul in 132 laid out the Via Popillia from Ariminum through Atria to join the Annia near Altinum. It

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74 Diod. xxxiv-v, 2, App. BC i, 9, Flor. ii, 7, 3, for the large numbers of slaves in Sicily; fewer herders than chain-gangs working cornfields, according to Scramuzza, Roman Sicily (ESAR vol. iii, 1937), 240-244. But cf. Cic. Ferr. ii, 5 f., 149 ff., 188 for grazing and pecunia, and Strabo (vi, 272) remarks that much of the island was occupied by shepherds.

75 Obs. 27 (134 B.C.).

76 Note the word order ‘ab Regio ad Capuam’ in line 1 of the elogium. The official numbering of miles was from Capua (line 8, and the Vibo milestone), which makes the inversion more significant: a man operating from Sicily would naturally start at the south.

77 Cic. legg. ii, 15 (‘nostri clientes, Locri’), Planc. 97. De sen. 41 for ‘Nearchus Tarentinus, hospes noster,’ Att. xvi, 6, 1, 7, 1 for Cicero’s hosts at Vibo and Rhegium in 44; Sicca of Vibo, with whom Cicero tried to shelter in 58, was no doubt the Sicilian Vibius whom he had made praefectus fabrum in 63 (Att. iii, 2, 4, Fam. xiv, 4, 6, Plut. Cic. 32, 1-2; Münzer PW s.v. Sicca). For Cicero’s Sicilian clients, cf. Ferr. i, 16, iv, 25, div. Caes. 2-3, Att. ii, 1, 3, xiv, 12, 1, Fam. xiii, 30, 31, 34-39.

78 See above, n. 57, on Rufus’ office. As for the date, there is no good reason why Rufus, with at most only one previous consul in his family, should have obtained his own consulship su anno. I have deliberately avoided the difficult question of the connection between the Polla elogium and the Graecchan assignments in Lucania, which, if soluble, might help to fix the date. See the bibliography in ILLR p. 258, plus Mommsen CIL ii, p. 509, Bracco ‘54, 26 f., Ferrua 240 and Degrassi 36, 38. The aper publicus in question may well have been in Sicily.
would be dishonest to pretend that this interpretation of the evidence is entirely free from difficulties, but I contend that it is rather more plausible than the current theory involving the transfer of two road-building schemes before their completion from Popillius to Annius Rufus.

T. P. Wiseman

ADDENDUM to notes 5 and 54. This article was in proof before I had seen Professor Degrassi’s paper ‘Nuovi Miliari Arcaici’ in Hommages à Albert Grenier (Coll. Latomus LVIII, Bruxelles 1962), pp. 499–513. On pp. 507–8 Prof. Degrassi adduces other possible examples of different roads built by the same man in the same year. But (a) the milestone put up N. of Aeclanum by a M. Aemilius M.f. Lepidus cos. (CIL IX 6073: hardly from the later Traiana, which was the Via Minucia under the Republic) need not be dated to 187, when the northern Aemilia was built—285, 232, 221(?), 175, 137 and 126 are just as possible; and (b) the roads of M’. Aquillius were probably not built in the same year (n. 57, above), and were at least all in the same juridical area. The hypothesis remains improbable.

On p. 510, ILS 1071 is used to prove that there was an Aurelia nova and an Aurelia vetus in Etruria, as implied by the siting of the recently found milestone of Aurelius Cotta at Vulci. But the Anna of CIL VI 31338a and 31370 can still hardly have been in Etruria, for the other reasons given on page 33.

29 See above, n. 57, for the most serious objection.
A ROMAN POTTERY NEAR SUTRI
(Plates XIV—XIX)

I. The site .......................................................... 38
II. The finds
   (A) Coins ......................................................... 45
   (B) Small finds .................................................. 46
   (C) Pottery ....................................................... 46
III. Conclusions ..................................................... 87

In 1957 an archaeological field-survey revealed the presence of a Roman pottery near Sutri.1 It lay 1-8 km. to the north of the town on an isolated ridge of clay, about 800 m. east of the modern Sutri-Ronciglione road at point 713823 of the 1 : 25,000 map of the Istituto Geografico Militare (Sheet ‘Ronciglione’) (fig. 1).

In August 1959, with the kind permission of the Soprintendenza alle Antichità for Southern Etruria and with the help of half-a-dozen friends, to whom go my warm thanks, the site was partly excavated. The main object of the excavation was to recover, if possible, a closely dated pottery series which might be of use to other archaeologists excavating in central Italy. In this, despite the shallow depth of soil and effects of recent ploughing, the excavation was successful. A kiln was unearthed, a comprehensive range of the pottery’s wares was recovered, and the main period of production was securely dated to the third quarter of the first century A.D.

I. THE SITE

A detailed surface examination of the area in question disclosed that it consisted, not of one, but of three distinct, though closely grouped sites. One of these (Site I, the Kiln) was excavated and is described below. The other two (II, III) were not excavated (Pls. XIV–XVI).

Site II lay about 50 m. W.N.W. of Site I. Here ploughing had revealed a group of Republican pottery and tiles, which extended beyond the limits of the area ploughed. From a superficial examination it was impossible to tell whether there had been any form of building. The absence of terra sigillata shows that, whatever it was, it went out of existence before the pottery came into operation.

Site III, 80–100 m. S.E. of Site I, was another group of tiles and coarse pottery, scattered thinly over a small knoll. There was nothing to indicate a date for the site, other than that it was Roman. The fact that there was no tangible indication of a building is not significant, since the hillock was covered with long stubble, and it was only when similar stubble was cleared from the kiln site that the first remains

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1 PBSR, xxvi (1958), site 713823 and p. 98.
Fig. 1.—Site of Excavation
of Roman building were found—a few loose stones with cement adhering to them.

The excavation of Site I (figs. 2–4) took place within an area of 14 m. from north to south and 17 m. from east to west. Initially three trenches were opened, of which two were later enlarged. The third, to the west, contained nothing but plough soil and was later abandoned. The depth of earth to virgin soil was nowhere more than 80 cm., of which 20–40 cm. had been disturbed by recent cultivation.

The earliest signs of occupation were specks of charcoal and a few small, abraded sherds in the upper levels of the natural subsoil. This was found in all three trenches and suggests one-time cultivation of the site, perhaps combined with trampling by people or animals in muddy weather. The pottery, though mostly indeterminate, was Roman and presumably Republican. Associated with this disturbed subsoil, and sealed by it, were a rubble drain and a stone-filled pit (figs. 2 and 4). The drain did not certainly lead as far as the pit, which was in any case too shallow (15 cm. deep and flat-bottomed) to act as an effective soak-away. Although the upper end of the drain was not located, it may be connected with Site II. In it were found two sherds of Roman coarse ware (fig. 5, nos. 7, 8).

Next came a building with concrete walls (figs. 2–4). The main material was local limestone, boulders of which occur naturally over the clay ridge. Small stones of it were laid in rough courses, in a grey cement containing many little lumps of yellowish tufa as aggregate. The result was a fairly friable concrete. Up to four courses have survived modern ploughing, none of them faced in any way. The full plan of this building was not recovered. Two roughly parallel walls, 55 cm. wide approx., ran more or less E–W and were joined, not quite at right angles, by a third, 45 cm. wide. All joints were bonded.

One of its walls cut the rubble drain; another crossed the nearby pit. All walls were probably trench-built into the upper natural subsoil, any vestige of an original building-trench having disappeared as the clay itself spread.

At one point, south of the kiln, the walls were bordered by mingled clay and occupation material, the latter in discontinuous layers suggesting a series of superimposed clay ‘floors’ (fig. 4, layer 14). The associated sherds were more numerous and included kiln wasters, indicating that the building belonged to an early period of the pottery, prior to the operation of the excavated kiln. That there was a break between this early period and the excavated kiln—the main period of production—is shown by the lack of continuity in the forms of wares made. But the presence of wares of the main period immediately above layer 14 (in layer 5) indicates that there was no long interval of time.

The excavated kiln was constructed in an angle of the concrete building (figs. 2–4). It was rectangular in plan, 2·60 m. long × 85 cm. wide (maximum interior measurements). Its walls were made of broken tiles and dolium fragments, carefully set in clay. They survive up to 50 cm. high. An arch of tufa voussoirs apparently covered the entrance from the stokehole, since a few such blocks, of small dimensions, were found in material from the collapse of the kiln, near its

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1 By contrast, most surviving examples of Roman concrete in the vicinity use selec aggregate—not tufa—in a rock-hard, virtually indestructible, grey cement.
Fig. 2.—The Concrete Building and the Kiln
entrance. But details of the rest of the upper part of the kiln are lost. A broken mill-stone formed the original end of one wall. The stoking area was semicircular in shape and deepened as it approached the mouth of the kiln. The original kiln floor was dug down to the natural clay. There were three phases of use, apparently following each other without a substantial break.

Phase I. The kiln was 2·40 m. long. The inner sides of the walls were made of tile fragments and broken dolium, with little clay. The north end of its west wall ended in a lava stone with a rounded side, presumably once part of a mill-stone. Its east wall ended in a squared block of tufa. Some natural stones projected from the clay floor of the kiln.

![Fig. 3.—The Kiln](image)

Phase II. After a certain time, a new clay floor was laid in the interior, above a layer of ash and broken pots from the first phase (fig. 4, layer 12).

Phase III. After another interval, a second new floor of clay was laid in the interior, above a layer of ash and potsherds from the second phase (fig. 4, layer 8). At the same time, the west wall of the kiln was lengthened with clay (but few tiles) for 50 cm. towards the north, while the east wall was repaired and prolonged for 15–20 cm. In addition, a vertical tile was inserted in the interior flank of this wall, opposite the mill-stone in the west wall. A partial collapse seems to have separated phase II from phase III (cf. fig. 4, layers 10, 11).

Large quantities of distinctive pottery were found in association with the kiln. Many different forms have been catalogued (figs. 7–19). In addition, small objects were occasionally dropped in the stokehole and were sometimes pushed into
A ROMAN POTTERY NEAR SUTRI

Fig. 4.—Sections (cf. Figs. 2, 3)

KEY TO PLANS AND SECTIONS

1. Ploughsoil.
2. Comparatively modern pit: ploughsoil and some carbon.
3. Pit post-dating kiln: very burnt clay and tile fragments (only in plan, fig. 3).
5. Occupation level: dark soil and wares from the kiln.
6. Final collapse of kiln: burnt clay and tile fragments.
11. Early collapse of kiln: burnt clay and tile fragments.
14. Early period of pottery: clay and discontinuous layers of dark soil with wares ante-dating the excavated kiln.
15. Walls of concrete building.
16. Disturbed subsoil: clay and abraded sherds. The upper surface of this layer was fired hard where it occurred in the kiln, in the stoking area and, outside the kiln, adjacent to its east wall.
17. Rubble drain: packed stones and tile fragments.
18. Pit in natural subsoil: clay and large stones (only in plan, fig. 2).
19. Natural subsoil: clay. The upper surface of this layer was fired hard inside the kiln and formed its floor during phase I.
FIG. 5.—Pottery, Other than from Kiln, and Small Finds (1 : 3. No. 22, 1 : 1)
A ROMAN POTTERY NEAR SUTRI

the kiln during raking of the ash (fig. 5). Some animal teeth and bones were also found in the stokehole and, most important, several coins too, providing conclusive evidence for dating the kiln to the last years of Nero or early years of Vespasian. How long this particular kiln remained in use is debatable, but it is more likely to have been a question of years than decades.

Another layer of ash and broken pots accumulated during the third phase, before the kiln suddenly collapsed. This disaster is suggested by the uppermost stratum of the filling of the kiln. It contained broken vessels in very burnt clay and earth, with fragments of tiles, lumps of tufa and two or three small blocks of tufa, coming most probably from a miniature arch covering the northern mouth of the kiln.

Elsewhere on the site the latest significant feature to be excavated was a gully, or open drain, dug across, and into, one of the concrete walls. Its ends were not found (figs. 2 and 4). Its filling was largely composed of closely-packed kiln-wasters, from pots so nearly resembling wares from the kiln as to be clearly contemporary. Similar kiln-wasters came from a layer south of the kiln (fig. 4, layer 5), where they sealed material dating from an earlier period of the pottery.

After the final collapse of the kiln, a pit was dug in its S.W. corner, whose bottom and sides were roughly lined with small pieces of tile and brick. Intense burning had taken place in it but, although Roman, its purpose is obscure. In comparatively recent times another pit was dug near the above-mentioned gully (fig. 4, layer 2).

Modern ploughing has removed the upper levels of many features, as well as any higher strata which may once have existed, thus terminating the story. But the total absence of red polished ware on the site shows that its history ceased very soon after the pottery went out of production.

II. THE FINDS

(N.B. All drawings are one third life-size except for the seal-stone (fig. 5, no. 22), which is life-size.)

A. COINS

Six coins came to light, all in the environs of the kiln. No. 4 is especially valuable for dating purposes.

1. As (?). Found in the ash in the kiln stokehole. Very worn: 2-8-3 cm. diam. Possibly paralleled in Sydenham, The Roman Republican Coinage, p. 44, no. 384, but the legend is no longer legible. From its weight, mid-second century B.C.

2. Denarius (Ar). Found immediately above the ash over the kiln stokehole, and perhaps displaced from the ash by the plough: but this cannot be proved. Worn, 1-9 cm. diam. Denarius of L. Apuleius Saturninus: cf. Sydenham, ibid., p. 80, no. 578. 100-97 B.C.

3. Quadrans (As). From final collapsed wall of kiln (fig. 4, layer 6). Worn, 1-6 cm. diam. Paralleled in Coins of the Roman Empire in the British Museum, I, p. 49, nos. 265-266 and in Mattingly, The Roman Imperial Coinage, I, pp. 78-81. 4 B.C.

4. Dupondius (As). In ash from the kiln stokehole, lying on the concrete wall beside it; nearby on the wall, and in the same ash, lay the closely-grouped fragments of an almost complete pot, a product of the kiln. Little worn, 2-8 cm. diam. Paralleled in Coins of the Roman Empire in the British Museum, i, p. 240, no. 206, pl. 43, 10. Neronian: A.D. 64-66.

5. Dupondius (?) (As). In the ash in the kiln stokehole. Very worn, 2-4-2-5 cm. diam. Standing figure, S C / head. A piece of Imperial bronze.
6. Dupondius (?) (4dr.). In the ash in the kiln stokehole. Very worn, 2-3-2-6 cm. diam. No trace of a design.

B. SMALL FINDS

Included among the small finds were a number of objects in metal, glass and stone, as well as several animals’ teeth.

Thumb-Pestle. (Fig. 5, 17). Inside the kiln, in ash of phase II. A small pestle, in the shape of a bent thumb, made of a uniform, granulated, white stone without veins or faults, plausibly Italian marble. Much worn, and the end of the thumb broken off in antiquity. Surface now disintegrating rapidly, but at one point an original smooth patch survives.

Whetstone. (Fig. 5, 18). Inside the kiln, in ash of phase II. About half of a well-worn whetstone, square in section, made of what seems to be a hard sandstone which does not disintegrate nor easily rub away.

Iron Clamp (?). (Fig. 5, 19). In ash of kiln stokehole. Three segments of a narrow, iron, clamp-shaped object, the ends turning up into squared ‘tenons.’ The ‘strap’ between is covered in corrosion, but shows no sign of having had the sharpened edge appropriate, for example, for a spokeshave. Original length uncertain.

Bronze Fitting. (Fig. 5, 20). In ash of kiln stokehole. Part of a small, round, bronze fitting, pierced with a central hole, which it turns down to enclose. Use unknown. Corroded.

Clay Ring. (Fig. 5, 21). In ash of kiln stokehole. Complete, small, terracotta ring—a toy or the product of a passing fancy. Fine clay, fired light brown to pale grey.

Seal-Stone. (Fig. 5, 22). Surface find. A brown, translucent, veined stone, perhaps chalcedony, certainly a silicate (specific gravity 2-78), cut into a flat oval to fit a mount, possibly a ring. The design, competently incised, portrays a Bacchic thyrsus behind a lean female animal, in the context very likely a panther. A chip has been broken from the right end of the stone. Illustrated life-size (i.e. at three times the scale of all other drawings).

Bronze Handle (?). Layer 5. A roughly-circular loop of bronze, 40-45 mm. in diameter, has two ends which, instead of meeting each other, begin to curve away again at the point where they are both fractured. Perhaps a handle for some lost object. Moderate corrosion.

Bronze Brooch (?). Final collapsed wall of kiln, layer 6. A bronze disk, approx. 3 cm. in diameter, shows the remains of a projecting bronze attachment in the middle of one face. A brooch? Corroded, with a fine layer of carbon on it when found.

Bronze Brooch (?). In the ash in the kiln stokehole. A thin bronze disk, approx. 2-2-2 cm. in diameter, having a slight bump off-centre in the middle of one side. A brooch? Corroded, and the edges worn away.

Other small finds from the ploughsoil included a round-headed, copper rivet (?), c. 5 mm. wide at the head; a fragment of lead sheeting; several square-headed, square-shanked iron nails, up to 5 cm. long; and fragments of glass ‘tear-bottles.’ Nails and ‘tear-bottles’ were also found in the kiln ash and a round black (or very dark green) glass counter was unearthed from the disturbed subsoil. A terracotta loom-weight completes the ploughsoil small finds, square in section (4 × 4 cm. at the top), widening towards the base and pierced near its upper end.

The few animal teeth found were as follows:

(a) Kiln, phase I or II: one sheep’s molar; one pig’s tusk. (b) Ash of kiln, phase II: one sheep’s molar. (c) Clay floor of kiln, phase II: part of sheep’s lower jaw with two molars; pig’s molar. (d) Disturbed subsoil: one sheep’s molar.

C. POTTERY

(a) Black-glazed ware  . . . . . . . . 47
(b) Terra sigillata  . . . . . . . . 47
(c) Lamps  . . . . . . . . 49
(d) Amphorae  . . . . . . . . 50
(e) Other finds and coarse wares  . . . . . . . . 50
A ROMAN POTTERY NEAR SUTRI

(a) Black-glazed ware

Such black-glazed ware as was found comes almost entirely from Site II, where it had been brought up by ploughing. The only sherds from Site I (the kiln) were in the superficial ploughsoil, none from the stratified deposits.


Decorated Base of an open form. Fig. 5, 2. Found on the ground in this vicinity during a previous year’s examination of the area, but not attributable with certainty to Site II. It is recorded here, however, more appropriately than in the context of the kiln. At least three rows of concentric rouletting adorn the upper surface of the visible portion, bounded on the inner edge by a single concentric groove. This form of embellishment is common locally. Buff clay. Dull, black glaze, mottled with brown outside.

Foot of a small form. Fig. 5, 3. Site II, ploughsoil. One fragment. The foot has an angular upper edge, but is otherwise rounded. Buff clay. Fairly dull, black glaze outside, dull grey-black inside.

Lid (?). Fig. 6, 1. Site I, ploughsoil. Rim fragment. Buff clay, tinged with pink at one point. Black glaze, virtually all lost, but matt where it is preserved.

Bowl or Cup, with flaring rim. Fig. 6, 2. Site I, ploughsoil. One fragment, very abraded. Profile may have been sharper. Diameter between the limits shown. The rim thickens slightly as it flares out from the oblique wall. Buff clay. Dull, black glaze, largely worn away (cf. Cosa, op. cit., A. 37 (pl. XXV), a cup with handle (mostly lost) and similar rim; ibid., D.8 d IIII (pl. XXXV), bowl with modified out-turned rim, flaring like the present example).

(b) Terra Sigillata

Terra sigillata was found in two distinct contexts during the excavation of Site I (the kiln). One sherd came from a layer contemporary with the earliest output of the pottery, prior to the construction of the excavated kiln (layer 14). The rest came partly from the surface partly from recent ploughsoil. All had a uniform fabric, consisting of a buff clay, generally tinged with pale pink, and a light brown-red glaze, which varies between shiny and moderately so. This group has been examined by Mr. J. W. Hayes, to whom I am indebted for the comments quoted. It clearly implies a terminus post quem of about the middle of the first century A.D. for the main output of the kiln (but not necessarily much later).

Foot of an open form. Fig. 5, 10. From the pre-kiln layer 14. The foot alone exists, low and faintly angular. Buff-brown clay.

Drag. 24/25. Hemispherical cup, with external flange. Fig. 6, 3. Site I, in ash of stokehole. Fragment of rim and upper wall. (‘The low rim suggests that the date is not early, perhaps Flavian (c. A.D. 40–early second century).’ J.W.H.).

Drag. 17 (?). Plate, with vertical wall. Fig. 6, 4. Site I, in ash of stockhole. Part of wall and junction with base. (‘c. A.D. 40–75.’ J.W.H.)

Appliqué Rosette from decorated form, possibly Drag. 24/25. Fig. 6, 5. Site I, inside kiln, in ash of phase I or II. Buff clay. (‘Claudius–Nero?’ J.W.H.).

Drag 27 (?). Form with rouletted decoration. Fig. 6, 6. Site I, in ash of kiln stockhole. A turning ridge on the interior may imply a closed form. (‘Rouletting no later than Nero?’ J.W.H.).

Drag. 3 or 17 (?). Plate, or Angular Cup (?). Fig. 6, 7. Site I, surface find. Fragment from the upper wall and rim. Angle and diameter approximate. There are two, external, decorative grooves. Brown-buff clay.
FIG. 6.—BLACK-GLAZED WARE, TERRA SIGILLATA, LAMPS AND AMPHORAE (1 : 3)
Loeschcke 8. Conical Cup, with off-set rim. Fig. 6, 8. Site I, surface find. Fragment of upper wall, less the lip. Diameter approximate. There is a row of rouletting on the projection dividing rim from wall and another above, nearer the lip. (c.e. A.D. 5–30.) *J.W.H.*

Drag. 31 (?). Plate, with oblique wall. Fig. 6, 9. Site I, ploughsoil. Rim fragment. Diameter approximately between limits shown. (c.e. A.D. 45–early second century.) *J.W.H.*

As above. Fig. 6, 10.

As above. Fig. 6, 11. Angle approximately correct.

Ritt. 1 (?). Plate, with curved wall. Fig. 6, 12. Site I, surface find. Base fragment. Concentric grooves embellish the interior of the plate, on its base. The edge of a stamp is just visible too, possibly of *planta pedis* type. (c.e. A.D. 45–Hadrian: perhaps Nero–Vespasian, because of the shape.) *J.W.H.*

Drag. 24/25 (?). Decorated Foot, of a small cup (?). Fig. 6, 13. Site I, surface find. Elaborately grooved inside and out.

(e) Lamps

Remains of several lamps were found in or near the kiln. They help to confirm its date, in terms of the chronology established by Loeschcke (*Lampen aus Vindonissa*, Zurich, 1919). Most significant is the total absence of *Firmalampen,* whose production began c. A.D. 75. There is no proof that any of the examples found were made in the Sutri pottery (animal teeth were also found in the kiln, as well as *terra sigillata*); in fact, their distinctive fabric suggests the contrary. Six out of seven were made of a very fine white clay (containing minute specks of mica), covered with a red slip in some, perhaps originally, in all, cases. The fabric of the seventh lamp (fig. 6, 20) was also unusual.

Fig. 6, 14. (Pl. XVIII, d). In the kiln, in ash of phase I or II. Spout probably once round. Handle askew. A frontal eagle, with outspread wings, moulded in relief, fills the bowl. Air-hole not pierced completely through. White clay. A thin, red slip covering the outside has mostly worn off. Loeschcke Type VIII (R): Tiberius onwards. The single bird in the bowl stands typologically between the Augustan preference for more elaborate scenes and the Flavian tendency towards no decoration in the bowl at all. *Cf. Vindonissa,* pl. IV, nos. 329 and 651—similar frontal eagles on a similar ground, but both supporting a bust of Jupiter.

Fig. 6, 15. In the kiln, in ash of phase II. Handle embellished with two grooves. Uncertain whether bowl was decorated or not. White clay. No trace of a slip. Most likely to be Loeschcke Type IV or VIII: first century A.D.

Fig. 6, 16. In the kiln, in clay floor of phase II. Fragment. Spout probably round. White clay. No trace of a slip. Loeschcke Type VIII (L): Tiberius onwards.

Fig. 6, 17. Ploughsoil. Fragment of an oblique shoulder. White clay. No trace of a slip. Most likely to be Loeschcke Type IV or VIII: first century A.D.

Fig. 6, 18. In the kiln, in ash of phase I or II. Fragments of shoulder and of bowl, decorated with radiating ridges, within a single shoulder-groove. White clay. Traces of a thin red slip survive inside. Possibly Loeschcke Type IV or VIII: first century A.D. *Cf. Vindonissa*, nos. 581 (Type IV, without handle) and 691 (Type VIII, with handle).

Fig. 6, 19. In ash of stokehole. Two non-joining fragments—enough to show part of a volute-spout (but not its more revealing termination), some indeterminate decoration on the bowl and the edge of an oil-hole, suggesting by its position that the decoration occupied most of the bowl. White clay. No trace of a slip. Possibly Loeschcke Type I (with angular spout), since Type IV (with rounded spout) usually has a sloping shoulder. The apparently extensive bowl decoration favours a date in the first half of the first century A.D.

Fig. 6, 20. In ash of kiln stokehole. Part of a volute-spout (but not its termination), seemingly from a lamp with moulded decoration in the bowl and a ‘tongue’ running from this, across the shoulder-rings, towards the spout. Shoulder horizontal. Hard, buff-brown clay, containing mica and a few impurities. Thin red slip, partly worn off. Loeschcke Type I (?): first half of first century A.D. (?)
(d) Amphorae

A few amphorae came to light. Some may have been made on the spot, since the fabric of a type with oval, rolled rim resembles kiln-wares closely.

Fig. 6, 21. In ash of kiln stokehole. One fragment—of a double-roll handle, broken near its lower end. Fine clay, containing little mica and few impurities. Pale orange.

Fig. 6, 22. In kiln, in ash of phase I or II. Two fragments. The heavy, down-turned rim of a large amphora. Moderately fine clay, with a little mica and many small impurities. Dirty, pale grey, with a faint green tint.

Fig. 6, 23. Ploughsoil. One fragment. An oval, rolled rim tops the neck. From below it springs a double-roll handle, somewhat flattened in section. Moderately fine clay, containing little mica, but several impurities. Brown-buff.

(e) Other Finds and Coarse Wares

The vessels listed below in Sections (i)–(iii) come from contexts that antedate the establishment of the excavated kiln. The great majority (Section iv) represent the main production of the Sutri pottery, from or contemporary with the excavated kiln.

(i) From Site II, surface finds:

Mortarium-shaped Bowl. Fig. 5, 4. Fragment. Diameter between the limits shown. Edge of flange restored. The inner face is smooth, as far as preserved, which makes it unlikely that this vessel was a mortarium, as its shape might imply (cf. fig. 5, 5). Fairly coarse clay, with calcite crystals, but no apparent mica, fired orange outside, grey inside and along rim upper edge.

Mortarium. Fig. 5, 5. Fragment. A heavy rim, resembling the bowl above, except that the flange is thicker and undercut. Moderately fine clay matrix for many medium-sized impurities, which include some mica. Light brown.

Jar with thickened rim. Fig. 5, 6. Fragment. Fairly coarse clay, with a little mica. Thin slip, or colour-wash, inside and out, fired light brown-orange, streaked with dark brown in places.

(ii) From the earliest levels of Site I (disturbed subsoil and associated rubble drain):

Large Jar, with out-turned rim. Fig. 5, 9. From disturbed subsoil (layer 16). Lip only; angle only approximately accurate. Diameter uncertain. Coarse clay, containing mica. Black above, brown below. Unlikely to be a kiln product.

Flanged Bowl. Fig. 5, 7. Rubble drain (layer 17). Just above the flange, the wall is pierced by a sizeable hole, which was an original feature. How many similar holes there were around the circumference we do not know. Fragments of similar bowls have been collected from two other sites near Sutri during fieldwork, but they add nothing to our knowledge of the complete form— cf. PBSR, xxvi (1958), sites 712775 and 741778, both producing black-glazed ware and terra sigillata, and the latter red polished ware as well. Fairly coarse clay, containing mica, fired brown. The bowl has been in use: it is burnt inside to within 3 cm. of the lip (but less markedly below the level of the hole) and outside in the curve under the flange, but not, significantly, on its flat resting-surface.

Large Jar, with round handle(s). Fig. 5, 8. Rubble drain (layer 17). Fragment including one handle-attachment. Moderately fine clay matrix for many impurities, including mica. Pale orange.

(iii) From Site I, layer 14 (production of the pottery prior to the establishment of the excavated kiln):

A few pieces from this level resemble the products of the kiln and are described in Section iv under the appropriate headings (see nos. 97, 132, 136, 194). Most of the vessels from this layer, however, exhibit some peculiarity. Those listed below are unique.
Beaker, with angular rim. Fig. 5, 11. Fragment. The rim is out-turned, concave on its inner face, but angular on its outer two faces. Fine clay containing mica. Grey. No visible trace of a slip. Apparently a kiln waster.

Rimless Bowl, with oblique wall. Fig. 5, 12. Fragments. Uncertain whether handled. Two rows of very light rouletting create a slightly recessed band just below the lip outside. A brown colour-wash probably covered the bowl once: there seem to be vestiges of it inside, but none outside.

Beaker (?). Fig. 5, 13. Fragment. A stubby, out-turned lip tops an upright, curving wall. Plausibly a beaker. Uncertain whether handled. Fine clay, but including mica and a few impurities. Light brown.

Jug (?). Fig. 5, 14. Fragment. An oblique rim, with squared end, swells where it joins a slender, vertical wall. Fine clay, with mica and a few impurities. Brown colour-wash inside and out, mostly lost.

Jar, with horizontal rim. Fig. 5, 15. Fragment. Diameter approximate. Moderately coarse clay, containing mica. Medium brown.

Bowl, with flange at lip. Fig. 5, 16. Two rim fragments. Lip and point of flange restored. Moderately coarse clay, fired orange.

(iv) Pottery from the Kiln

A wide variety of vessels was made in the excavated kiln, including even cooking stands, it seems. Among the most prolific forms were beakers (Form 1) and lids (Form 48). Also common were bowls with wavy upper wall (Form 7), jars with an angled neck (Form 26), shoulder-ridge jars (Form 27), and flat-bottomed dishes (Form 52); followed closely in popularity by rimless bowls (Form 6), carinated bowls with projecting rim (Form 20), jugs with horizontal rim (Form 30), globular jars (Form 34), and jugs with thick, grooved rim and vertical neck (36). There were other, rarer shapes too, suited to particular needs and tastes. Large vessels were least common. This basic range appears to cover most day-to-day needs. The pottery, in fact, aimed to cater for the whole market. It did not specialise.

All forms are catalogued below. No entire, undamaged vessels were found, but complete profiles of the commoner types could usually be reconstructed from the broken sherds and almost complete pots could sometimes be pieced together. Where there is any doubt in identifying a form, this has been made clear. A particular problem is posed by pots with handles—how many handles they had and whether they always possessed them. Each question of this sort is discussed separately. But in the case of beakers and small bowls, whose handles are similar (Forms 1–4, 6, 7), the abundance of detached handles found makes one more confident in assigning them to any given vessel. One form recalls a black-glazed type (Form 12), another recalls two terra sigillata types (Form 10).

Decoration was sparingly employed and seldom ambitious. (i) Grooves, or sometimes ridges, made during turning, were the commonest embellishment on all sizes of vessels (Forms 1, 3, 4, 5, 8, 9, 19, 21, 23, 25, 27, 28, 30, 32, 34–36, 39, 40, 49, 59, 63, 64, 67, 82: cf. 18, 20, 26, 37, 44, 62). They were virtually de rigueur on every handle, except a round one. (ii) Bands of rouletting were practically confined to two small forms (Forms 1, 7: cf. 82, 83), as were (iii) the rarely-used barbotine motifs—rows of ‘thorns’ (Form 1) or, once, plant forms (Form 7). (iv) Larger vessels occasionally received elaborate, ‘pie-crust’ decoration, notched or finger-pinched (Forms 50, 81, 84, 85: cf. 92).
Fabric reached a high quality. The small forms, in particular, were made from remarkably fine clay, at times approaching that of *terra sigillata* in purity. Mica was almost invariably present—perhaps always, if we could detect it. (Those pieces which do not show it are often the ones which have been misfired, a chance which might affect the visibility of the mica itself.) At times, small calcite crystals can also be seen. These may well stem from the limestone boulders scattered over the clay hill, which contain seams of similar-looking crystals.

Some of the not-so-small bowls, dishes and jars share a clay which is fired a distinctive, uniform, medium-brown, or chocolate-brown, colour (Forms 20, 23, 24, 25, 26, 34, 52). This may be an early characteristic, for it occurs in the first two phases of the kiln and quite often in the products of the pottery made prior to this kiln’s construction (cf. layer 14, p. 40). It does not appear in the kiln’s last phase. By contrast, certain specimens with a sandy, or gritty, clay seem to be confined to that phase and are therefore a late feature (Forms 27, 28, 34, 37, 43). (Only Form 33 has a clay slightly gritty to the touch in the earlier phases of the kiln.)

Most small forms were given a superficial colour-wash, a very thin slip of the same clay as the main fabric (Forms 1, 4, 6–8, 9, 10–13, 19, 40, 54, 67: possibly Forms 2, 3, 17, 18, 39, 41, 63, 82, 86: cf. 5, 14, 20, 26, 27, 29, 38, 44, 51, 55, 80). This was fired brown at its best, although the pieces found were somewhat uneven and patchy. One bowl had a slip imitating the finish of *terra sigillata* (no. 36). Larger vessels accepted the colour of their clay. Jugs with horizontal rim, however, consciously aimed at a light buff finish, which, combined with their fairly fine clay and, in the surviving pieces, with a surface not fired very hard, gives them a distinctive fabric (Forms 30, 31; cf. 29).

Kiln-wasters were normally grey or, sometimes, black. (One or two exceptions were fired bright orange.) Wherever else similar grey wares are found near Sutri there is good reason to suspect a kiln. These two pieces of evidence suggest that there was no ready sale for grey products as such, except perhaps as ‘seconds.’ *Terra sigillata*, after all, had supplanted black-glazed ware.

The general standard of turning was good, although occasionally betraying haste. Badly-shapen or warped pieces were due to misfiring. As one would expect, there are no signs of wear and details are sharp and ideal for classification; but profiles and diameters are sometimes suspect.

Material from the ‘gully’ and from a layer contemporary with the kiln (layer 5) has been catalogued together with pots from the kiln itself, because of similarities. A few pieces from slightly later deposits are included, since they resemble the kiln wares. For the same reason, one or two vessels from the earlier period of the pottery, prior to this kiln, are included (layer 14). But these last specimens are not often absolutely identical in form and serve to emphasize the difference, rather than the likeness, between the two periods (cf. Forms 26, 34, 52 and p. 50). One feature does span these two periods, the uniform, medium-brown fabric already mentioned. This seems later to have been abandoned, either because technique changed or because taste altered. Within the kiln itself, little development, generally speaking, can be seen. Scant material survives assignable to phase I, in any case, because of the slight depth of the ash layer of that phase. Gritty, or sandy, fabrics are virtually
restricted to phase III, as apparently were jugs and pitchers with upturned rims (Forms 28, 29). Otherwise, forms and fabrics are remarkably uniform.

The pottery fairly certainly catered solely for Sutri and its environs. This is suggested by its relatively small size, the wide range of its wares, by the delicacy of many of them, which would not be easy to transport far by road, by the existence of at least one other pottery nearby (726815) whose date was not very different, and by the existence of further pockets of clay adjacent to neighbouring towns and by implication exploited by other local potteries.

A few sites in the immediate neighbourhood yielded similar wares, when examined during fieldwork in 1957–58 (cf. PBSR, xxvi, 1958—sites 688800, 689871, 692872, 700792 (?), 702818, 706783 (?), 710826*, 718780 (?), 720829*, 722772 (?), 733848*, 735768, 740775). But one cannot say whether such wares came specifically from this pottery. In fact, some showed closer affinities with the products of the other Sutri pottery of roughly this date, 726815 (sites asterisked above). The ‘local grey ware’ attributed to the present pottery in 1958 turns out to be a misnomer for what are in reality kiln-wasters.

No comparable body of material has been published from central Italy. The nearest corpus of useful parallels in print known to me stems from the Roman cemeteries in the lower Alps, in the Swiss canton of Ticino (C. Simonett. Tessiner Gräberfelder: Monographie zur Ur- und Frühgeschichte der Schweiz, vol. iii, Basel, 1941. Note also N. Lamboglia’s review in Rivista di Studi Liguri ix (1945), pp. 163–194. Both are well illustrated). There the range of forms is not nearly so great. The most significant likenesses are to be seen in the beakers and small bowls, which clearly reflect the same fashions which modelled the Sutri examples. In the mid-first century A.D. for example, the forms of those in the Ticino correspond closely with those of Sutri (Forms 1, 6: cf. 7), while the decorative formulae are practically identical: grooves, rouletting, barbotine plant forms. (In the Ticino this seems to illustrate a period of reversion to simpler decoration after more elaborate types of embellishment during most of the first half of the century.) Local differences exist, however. Throughout the first century, the Ticino favours a beaker whose surface is covered with a regular pattern of barbotine dots. This is missing at Sutri. Conversely, Sutri’s beakers and small bowls normally possess handles, whereas those in the Ticino virtually never do so. (There are only two exceptions, both prior to A.D. 20.) Further, a brown colour-wash is common in both districts for these forms, but a high proportion of the Ticino pots are grey or black (without being kiln-wasters). The main influences in the two centres are identical, but are tempered by regional variations.

Any other relevant material published from Italy as a whole, including even the carefully described pottery from Ventimiglia on the Riviera, is too fragmentary to be of value for detailed comparisons. In this situation, no attempt has been made to quote parallels from other excavations for each form in the catalogue.

Forms manufactured in the kiln are given first below (Forms 1–59). Then follow forms possibly, but not certainly, made by this pottery (Forms 60–92)—mainly from the ploughsoil or surface-finds, and often unique. Where possible, the general characteristics of a form are described before its individual specimens. Findspot, any peculiarities and the fabric are always noted and, where helpful,
the amount extant, at times expressed as a fraction. Where this is described as ‘fragments,’ less than a quarter of the vessel survives. The list does not include every sherd found, but only representative specimens. The frequency with which any form occurs is noted at the start of the description.

Form I. Beaker, with out-turned rim and handle. Fig. 7, p. 74.

Very common form, found in all three kiln phases. The general proportions are fairly constant, although there is some variation in size. The rim is set off from the wall. It has three main shapes. (i) Out-turned: it lies at an angle, usually between 10° and 45° from the vertical (but sometimes more), with a fairly uniform profile, occasionally tapering towards the lip. This is the commonest type (1–4). (ii) Curved: as (i) but the lip curved back towards the centre. Beaker rims of this type are fairly upright, but the shape is found at wider angles on jars and pitchers (8–11 and 107–111). (iii) Thickened: as (i) or (ii), but the exterior face thickened and made angular—a rare shape (20). All three shapes merge into each other. Type (i) is not associated with any particular foot, handle or decorative scheme; and the evidence for (ii) and (iii) in this respect is insufficient for one to be definite. The foot is almost always shown, even if not very pronounced. It can be decorated with one or two shallow grooves. Most surviving beakers had a handle and, since no extant example was certainly made without one, it is possible that originally all possessed handles. These have the shape of a narrow strap, decorated with vertical grooves, commonly two or three in number. Decoration on the body is not frequent. It includes a low ridge or groove(s), on the shoulder, and bands of rouletting or rows of barbotine ‘thorns,’ on the main wall.

The clay is very fine, rarely containing impurities, apart from the ubiquitous mica. A thin colour-wash usually covers the whole vessel, inside and out. When not misfired matt grey or grey-black, this is brown, often mottled and slightly shiny. Individual pieces range from deep red to light brown. The clay is a lighter shade of the tint(s) of the surface. The wash tends to rub off, especially outside. More often than not a discoloured firing-ring marks the lower body outside, due to one beaker standing in the mouth of another in the kiln.

1. Kiln, phase II. Handle lost, but points of attachment survive. Poor turning probably produced two shallow grooves round rim. Brown, mottled with grey-black. (Pl. XVIII, 6.)

2. Kiln, phase II. Most. Handle partly restored. Brown, with grey firing-ring. (Pl. XVIII, a.)


4. Kiln, phase I or II. Handle partly restored. Both it and decorative grooves round foot are slightly uneven, showing hurried work. Red-brown, mottled with black at lip.


9. Kiln, phase I or II. Handle lost (?). Red-brown.

10. Kiln, phase I or II. Rim fragments. Grey.

11. Kiln, phase I or II. Fragments. Misfired—grey and handle possibly mis-shapen, although it was always of uneven thickness.


13. Ploughsoil. Ridge below rim, possibly caused by poor turning. The profile has affinities with Form 7, Rimless Bowl with wavy upper wall. The diameter seems too small, however, for this piece to belong to Form 7, unless the pot was warped, as well as discoloured, in firing. That is not impossible. Black.

A ROMAN POTTERY NEAR SUTRI

15. Surface. Two grooves on shoulder. A few small impurities in clay. Uncertain whether there was once a brown colour-wash.


17. Gully. ①. Handle partly askew and applied after decoration. Eleven bands of rouletting on body, each mark triangular in shape, rather than a single line, an effect produced by smudging individual strokes towards one side. Rouletting framed between one groove above and two below. Hardly any mica visible in clay. Black. (Pl. XVII, b.)

18. Kiln, phase I or II. ②. Handle lost (?). Ridge below rim caused by bad turning. Incised line on lower body-wall possibly due to same error. Mottled light and dark brown.


20. Kiln, phase I or II. ③. Three moderately regular rows of oblique barbotine ‘thorns’ on body. The highest overlaps a groove round the upper wall, which at one point becomes double through carelessness. Brown. (Pl. XVIII, c.)

21. Kiln, phase II. ④. Misfired—discoloured and badly mis-shapen, so that profile is reconstructed. Two roughly regular rows of oblique barbotine ‘thorns’ on body. Groove on lower body. No visible mica in clay, and no trace of colour-wash. Grey. (Pl. XVII, a.)

Form 2. Beaker (or small Jar?), with out-turned rim. Fig. 8, p. 75.

Unique. Possibly, but not certainly, a variant of Form I, whose fabric it shares.


Form 3. Bulbous Beaker, with out-turned rim and handle. Fig. 8.

Unique. Bulbous version of Form I, with decorative ridge at base of distinct neck. Fabric the same.

23. Kiln, phase II. ⑤. Probably a colour-wash, but very little mica to be seen.

Form 4. Beaker (?), with vertical wall and handle. Fig. 8.

Unique. Not certainly a beaker. Attachment of one strap handle extant, presumably, though not demonstrably, the only one. Decorative groove on upper wall. Fabric as for Form I, including a dark brown colour-wash.


Form 5. Rimless Bowl, with upper wall decorated with a ridge and groove(s). Fig. 8.

Rare form and no two examples quite alike. The two basic elements of the decoration seem to be (i) a flat ridge halfway down the upper wall and (ii) a groove just above the curve of the belly. The foot is indicated, but no more. Handles were possibly never applied to this form, since there were certainly none on 25. All such bowls are small: 26 is larger than the average. Fabric as for Form I, save that 26 alone reveals traces of a colour-wash.

25. Kiln, phase II. Most. Grey and hardly any mica to be seen. Firing-ring round foot. Wall so egg-shell thin that it breaks readily at point of constriction. (Pl. XIX, c.)


Form 6. Rimless Bowl, with two handles. Fig. 8.

Quite common. The profile displays a distinct bend between lower and upper body, but this never becomes angular. The upper wall leans slightly inwards. The foot is generally indicated, even if not decorated: 31 is an exception. Some bowls had narrow strap handles, almost certainly
arranged in opposite pairs (cf. Form 7); none was definitely devoid of them; and it may well be that all once possessed them. 30 and 31 represent average proportions. Fabric as for Form 1, including a brown colour-wash inside and out.

28. Ploughsoil. Most. One handle extant and both attachments of the other opposite. Brown, with black patches.

29. Kiln, phase II. 1. Dent in wall—due to misfiring (?). Attachments of one handle survive (of uncertain profile) and a second not excluded. Brown, discoloured firing-ring below handle.


31. Kiln, phase II. 1/2. Signs of a handle attachment on a similar, but not necessarily belonging, fragment. Grey-brown to pale brown; firing-ring on lower body.

Form 7. Rimless Bowl, with wavy upper wall. Fig. 8, p. 75.

Common. Similar basic shape to Form 6. Proportions reasonably constant. The main difference is the presence of a low ridge externally below the rim which, combined with a slightly out-turned or thickened lip, gives the upper wall a 'wavy' effect. Variations in turning make the lower ridge at times pointed, and once flattened, in profile. A pair of strap handles placed opposite each other occurs on several pieces, including some with decoration: no extant piece was definitely made without them: it could well be that they appeared regularly. Bands of rouletting were a popular decorative scheme and one bowl was adorned with barbotine leaves and berries. This form received more decoration than any other. It is only matched in this respect by the standard beaker, Form 1. Its fabric is identical with that form, down to a colour-wash inside and out. This is generally a mottled brown, if not misfired; but the finish of 36 imitates terra sigillata.

32. Gully. 1/2. One handle is a shade wider than the other. Both were applied after the decoration (a general rule, when rouletting is used) and both are slightly askew. Fourteen rows of rouletting on the body, each stroke resembling an inverted triangle. Dark brown.

33. Gully. 2/3. One handle exists and the lower attachment of the other. Thirteen rows of rouletting on the body. Black.

34. Gully. 3/4. Two bands of rouletting, one of eight rows on the upper wall and one of six overlapping rows on the lower. Dark brown. (Pl. XIX, a.)


36. Kiln, phase II. Most. One handle attachment extant. Colour-wash is fired matt red inside and out (on a light brown clay), streaky on the exterior lower wall. Its finish imitates terra sigillata and it perhaps merits the term 'slip' rather than 'colour-wash.' (Pl. XIX, b.)

37. Kiln, phase I or II. Fragment. Seven rows of lightly impressed rouletting. Black.

38. Kiln, phase III. Discoloured, and warped in firing. Diameter and angle only approximate. At least three rows of rouletting on body. The characteristic low ridge on the upper wall is here flattened. Grey-black.

39. Kiln, phase I or II. At least four rows of rouletting on body. The low ridge is angular in profile. Dark grey and no sign of a colour-wash.

40. Layer 5, contemporary with kiln. Probably, but not indubitably, a colour-wash inside and out. At least one row of wide rouletted strokes on body. The low ridge is angular. Grey.

41. Kiln, phase I or II. At least two rows of rouletting on body, the upper in pairs of strokes. The low ridge is quite sharp in outline. Dark brown.


Form 8. Rimless Bowl, with grooves near lip. Fig. 9, p. 76.

Unique. It differs from Form 6, in that it is decorated and because the upper wall is remarkably tall, even if it curved in towards the foot lower down (which we cannot prove). There is no indication whether the bowl had handles nor what foot it had. Fabric as for Form 1, including a dark brown colour-wash, mottled with red-brown inside.

43. Layer 5, contemporary with kiln. Fragments. A very shallow pair of grooves near the lip. The band between them, despite being ideal for decoration (e.g. rouletting), never received any.
A ROMAN POTTERY NEAR SUTRI

Form 9. Angular, carinated Bowl. Fig. 9, p. 76.

Rare: one or two fragments only, in addition to the example described, confirming, however, the undulating line of the upper wall and the squared lip. Other features comprise a pair of grooves below the body angle and a ring-foot base, here given a crisp profile. Clay fine and fired light brown to orange, but containing many small impurities, which speckle the light grey to buff-brown surface. An overall colour-wash is too thin to conceal them, but ensures a smooth surface.

44. Kiln, phase II. ½. Base asymmetrical. Poor turning of wall has left a thin, weak point. Discoloured firing-ring off-centre inside, similar in diameter to base of this pot. (Pl. XVIII, c.)

Form 10. Small Bowl, with projecting flange near rim. Fig. 9.

Rare. The two listed are the only specimens found. Although differing in size, they both come from the same layer in the kiln and share a short vertical rim above a projecting flange. In one case the flange is solid and more pronounced than the other. The shape recalls two terra sigillata forms—Loeschcke 8 and Ritterling 12 respectively. Fabric as for Form 1, including an overall brown colour-wash.

45. Kiln, phase I or II. Foot shape unknown, as lowest surviving angle is not flat enough for a base. Flange broad and hollow inside. Red-brown to dark brown.

46. Kiln, phase I or II. Flange narrow and solid. Red-brown.

Form 11. Bowl, with oblique wall and thickened rim. Fig. 9.

Unique. The wall-thickness narrows just below the rim, but broadens for the rim itself. Fabric as Form 1: there are remains of a brown slip only on the inside.

47. Kiln, phase III. Fragments. Exterior discoloured grey. Diameter approximately correct, but difficult to assess, since the pot became a bit warped in firing.

Form 12. Bowl, with incurving rim. Fig. 9.

Rare. Recalls black-glazed bowls of the same shape. A ring-foot would be likely, but cannot be proved. Fabric as for Form 1: there was probably once a colour-wash inside and out. Both specimens quoted were apparently misfired.

48. Kiln, phase II. A little warped, presumably in firing, as the exterior is grey, even though the interior is brown. Remnants of a colour-wash outside, not detectable for sure inside.

49. Layer 5, contemporary with kiln. Fired grey, so that distortion due to misfiring is not impossible. Apparently vestiges of a brown, overall colour-wash, now mostly lost.

Form 13. Miniature Bowl, with flaring wall. Fig. 9.

Rare, but a more stable form apparently than that of the few larger specimens catalogued under Form 14. A sharp—but not angular—bend between lower and upper body leads to an out-turned, or out-flaring, lip. The foot exists, but is not emphasised in the extant example. It is doubtful whether the ridge on the wall of this vessel was intended as decoration. Fabric as for Form 1. A mottled brown colour-wash covered the entire surface.

50. Kiln, phase I or II. Discoloured grey and black. Probably unintentional ridge on body.


Form 14. Bowl, with flaring wall. Fig. 9.

Rare. The listed fragments exhibit so much variety that they may well represent more than one form. (Perhaps significantly, each comes from a different area.) In some degree, however, all share an out-flaring lip above a curved wall. Their shape of foot remains in doubt. 52 illustrates a profile akin to Form 13: 54 is a shallower version with a distinctive, thickened rim: 53 and 54 suggest a less curvilinear concept. The fabric of all resembles that of Form 1, save that 52 alone displays vestiges of a colour-wash.

52. Kiln, phase I or II. Overall colour-wash, grey-brown inside, orange to brown outside.


54. Layer 5, contemporary with kiln. Fired grey-buff to dirty buff in colour.

81. Kiln, phase I or II. A few impurities in the clay. Orange to grey.

82. Kiln, phase I or II. Many small impurities in clay. Orange-brown to pale grey.

83. Ploughsoil. Moderately coarse clay, fired a uniform, medium brown.

Form 25. Wide Bowl, with thick, upright, decorated rim. Fig. 10, p. 77.

Two specimens only, which differ in detail. Above an oblique wall, a thick, upright rim is applied, whose external lower edge projects beyond the wall and overhangs it. Internally, the wall is slightly recessed before it reaches the lip. The outer face is decorated with two or three grooves. The bowl is wide, but its lower profile is unknown. Fabric as for Form 20. 84 is fired a uniform, medium brown (cf. flat-bottomed dishes, Form 52).

84. Kiln ash. Diameter approximate. Lower rim edge overhangs the wall noticeably and projects a little beyond the upper. Three roughly impressed grooves on the rim's outer face. Clay contains small impurities and is fired a uniform, medium brown.

85. Ploughsoil. Diameter approximate. Lower rim edge projects less than the upper, but still overhangs the wall. The outer face of the rim has two regular grooves. Fine clay, but with several small impurities. Buff, grey and pink, in patches.

Form 26. Jar, with angled neck. Fig. 11, p. 78.

Common. An ovoid body sits on a flat base and opens into a broad mouth, usually wider than the base in diameter. Just below it, the incurring wall turns back through an angle to rise vertically, or obliquely outwards. All jars share these features, although the details and scale can vary. Similarly all rims project, but their profiles differ considerably—from extended, horizontal rims to mere rounded protuberances, with most gradations between. Since the intermediate shapes merge into each other typologically, no attempt has been made to subdivide them into rigid classes. The mean is a superficially down-turned profile on a slightly oblique wall. Only one rim is decorated, with grooves on its upper surface, and that comes from a stratum anterior to the kiln (97). Clay ranges from fairly fine to moderately coarse, depending partly on size of vessel. Surface fired brown, orange or a combination of these two. One jar, the smallest, employs a fine clay, covered with a colour-wash (92) and one other may once have had a colour-wash too (86).

86. Kiln, phase I. Flat, horizontal rim. Faint ridge below it caused by uneven turning. Fairly fine clay. Possibly a colour-wash once, mostly lost, fired khaki inside and brown outside. Pot otherwise pale grey inside and orange outside.


88. Kiln, phase I or II. Slightly down-turned rim. Moderately coarse clay. Orange-brown outside, grey inside.


90. Kiln, phase II. Rounded rim, flattened underneath and projecting a little into the interior. Fine clay, with a few impurities. Brown to grey-brown.

91. Kiln, phase I or II. Rounded rim, flattened underneath and projecting a little into the interior. Fairly fine clay. Light brown.


93. Gully. Heavy, rounded rim, flattened underneath. Fairly fine clay. Surface orange to light brown and tending to disintegrate where orange.


98. Kiln, phase I or II. Heavy rim, with down-turned end. Fairly fine clay. Brown-orange.


100. Kiln, phase I or II. Rounded, protruding rim. Moderately coarse clay. Brown to black.

Form 27. Shoulder-ridge Jar, with handle. Fig. 12, p. 79.

Common. The jar, of medium size, has a bulbous body and wide mouth. Its shape varies in details, but a projecting ridge on the shoulder always divides belly from neck. A strap handle, with one longitudinal groove, springs from the height of this ridge and curves round to rejoin the belly. There was only ever evidence for a single handle. The rim projects, but comprises many variations, from a mere thickening to an out-turned profile. The one identified base is slightly concave underneath and the wall flares a little as it rises from it. Clay generally moderately fine, with some impurities. Surface brown at its best. Some pots show traces of colour-wash, but this may not necessarily have always been present.


102. Probably from kiln. Between $\frac{1}{2}$ and $\frac{3}{4}$; complete profile reconstructed from three non-joining sections. Original height could have been 1 cm. lower or higher; that drawn agrees well with a fragment from the central body. Half handle-section reconstructed. Neck curves out to a thickened rim. Mostly orange, but brown on one side.


104. Kiln, phase III. Fragments. Lower end of handle extant, but no indication where it was fixed to the body. Rounded rim, projecting more than pot above. Moderately fine clay, without impurities. Brown, overall colour-wash, becoming grey-brown near base.

105. Kiln, phase II. Fragment. Flattened rim. Straight profile of wall may owe something to misfiring, as pot is grey. Handle lost.


Form 28. Jar, with up-curved rim and handle or handles? Fig. 12.

Not common. Like Form 27, the jar has a bulbous body and wide mouth, and is of medium size. The rim, projecting obliquely upwards, has a curved profile, concave towards the inside of the pot. A single, curved strap handle, embellished with a longitudinal groove, was attached to the upper belly. This was certainly true of some specimens, and not improbably of all. The possibility of a second handle on the other side of the jar cannot, however, be disproved. The precise height of this handle on the wall is not fixed, but it may well have been positioned in relation to a decorative shoulder-groove which appears on some jars. Clay moderately fine, with small impurities, but distinctly sandy or gritty in texture and fired hard. It produces a surface which is slightly rough to touch. Brown, perhaps a fairly dark hue at its optimum.

107. Kiln, phase III. Fragments. Handle fragment and lower attachment extant, but position of latter uncertain. Seemingly no decorative groove on shoulder or body. Dark brown.

108. Kiln, phase III. Fragments, including handle. Position of this approximate, but presumed to be related to decorative shoulder-groove on body, as shown. Full profile composed from three, non-joining fragments. Distortion near base. Dark brown.

Form 29. Pitcher, with rim and two handles. Fig. 12.

Not common. The rim recalls Form 28, but the size, handles and fabric differ. The oblique, up-curved rim is often thicker near the lip and in larger vessels is commonly slightly bevelled at that point on the interior. A pair of opposite strap handles, adorned with more than one longitudinal groove, springs from the angle between rim and wall, being partly attached to the former. Each drops vertically to the upper body, which is here descending obliquely. The rest of the body and base is lost. Clay fine, although the larger vessels contain impurities, and fired only moderately hard. Surface buff. One pitcher, the smallest, may have been given a colour-wash (109).

THE BRITISH SCHOOL AT ROME

110. Kiln, phase III. Two fragments, including scars of a handle attachment. One or two impurities in clay. Buff.

111. Ploughsoil. Fragments, including most of both handles. Moderately fine clay, including a fair number of impurities. Buff to pale orange.

Form 30. *Jug, with horizontal rim.* Fig. 13, p. 80.

Fairly common. The base is slightly concave and the wall flares a little as it rises away from it. (At any rate, extant bases of this type and fabric are quite common and, since 112 shows that they were associated with this form of jug, it is likely that they were its habitual base-type, even though full profiles, to prove it, are rare.) After the widest point at the belly, the neck narrows to a mouth of about the same width as the base. The neck curves gently, but is not differentiated as a separate entity from the body. The rim projects horizontally, but its detailed section varies. Its upper surface can be flat, or slightly concave; its under surface is usually curved and often thickened, where the jug’s neck sweeps out towards the lip; the inner lip is generally distinctly marked. The single strap handle rises vertically from the upper belly, bends through a right-angle and rejoins the mouth at, or just below, the rim. Its exterior face is decorated with one to three longitudinal grooves. A single groove adorns the shoulder of two surviving jugs and may have been normal in that position. Clay usually fine, even if it contains one or two impurities, but not fired more than moderately hard. Surface a light colour, between buff and light brown at its best, but patchy on most pieces (*e.g.* with areas of pink, orange or pale grey).


118. Kiln, phase III. Fragments. Squared rim. Handle rises from shoulder-groove on body, overlaps rim, uniting with its outer lip, and has three decorative grooves. Buff-brown to pale orange.


Form 31. *Jug, with horizontal rim and handle which is round in section.* Fig. 13.

Not common. Existing rim profiles recall Form 30 and the fabric is identical. The handle joins the rim in a like way, but its section is round (or ovoid), not flat. Further, the two handles which are preserved complete do not drop vertically to the body, but bend back to meet it. Again, in the one instance where it could have appeared, the body shows no shoulder-groove. These may be only minor differences, however, in a jug basically resembling Form 30. The foot has not been securely identified.


121. Kiln, phase III. Rim flat and wall thickened below it. Handle overlaps rim, meeting its inner lip. Colour of handle a darker shade of the wall’s dirty buff.

122. Kiln ash. Handle complete, but jug lost. Orange.

123. Ploughsoil. Diameter uncertain, angle and rim profile both approximate. Handle joins only with outer lip of rim. Pale orange.
A ROMAN POTTERY NEAR SUTRI

Form 32. Jug, with wide, conical neck and projecting rim. Fig. 13, p. 80.

Quite rare. The rim is related to that of Form 34. Its inner, or upper, face (depending on its angle) is curved and slightly concave. The outer and under faces are fairly straight and meet at an approximate right-angle. The outer lip is at times sharp and angular, at times flattened and squared off. The neck widens steadily until it merges with the belly, which seems usually to be placed low on the profile. The neck is only set off from the belly by a single decorative groove (present at any rate in the two extant examples which could show it). It is remarkably straight in profile, like a truncated cone. A strap handle, grooved longitudinally, rises from the belly, to rejoin the neck just beneath the rim, which it partly overlaps on occasions. The jug is normally reasonably small. 126 appears to be a slightly larger version of it. Clay moderately fine to fine: surface orange to light brown.


125. Kiln, phase I or II. Oblique rim, with flattened lip. Strap handle of uncertain profile. A few impurities in fine clay. Orange to brown.


128. Kiln, phase I or II. Oblique rim, with flattened lip. Both handle attachments preserved, but not its profile. Decorative groove on body between belly and neck. Fine clay. Light brown-buff.

Form 33. Pitcher, with vertical neck and two handles. Fig. 13.

Not common. The cylindrical neck rises straight from the body and is crowned by a projecting, slightly tapering rim. An opposed pair of strap handles spring from just below the rim and descend vertically on to the shoulder of the pot. They are grooved longitudinally. Clay fine: surface buff-brown, and very slightly gritty to touch.

129. Kiln, phase I or II. Complete rim. Handles not exactly opposite each other. Buff-brown, tinged with grey and orange.

130. Kiln, phase I or II. Complete neck and most of one handle. Buff-brown.

Form 34. Globular Jar. Fig. 14, p. 81.

Fairly common. This small to medium-sized jar has a globular body, whose wall turns back sharply at the mouth to form an oblique rim. The interior face of the rim is concave. On its exterior, the under and outer faces meet at an angle. Within these limits, however, there is much variety. (i) Some rims are angular, with a marked inner lip (131, 132); (ii) others are rounded (133); (iii) some have flattened, oblique upper lips and the angle between under and outer rim faces has almost disappeared (134–136); (iv) others have rounded lips and very sharp exterior angle (137, 138); (v) finally, for some, the outer face is ornamented with a groove (139, 140). On one piece there is a decorative groove round the upper body, on another a low ridge where body and rim join. The base has not been identified. Fine clay, seldom containing impurities. (Two vessels with fairly coarse clay come from layer 14, a layer anterior to the kiln: 132, 136.) Fired buff or light brown, at its best.


133. Kiln, phase III. Buff to buff-brown.

134. Layer 5, contemporary with kiln. Buff.


137. Ploughsoil. Fine clay, containing one or two impurities. Brown, mottled with grey and pink inside.

139. Kiln, phase III. Fragments. Groove on upper body and outer rim face, both unevenly applied. Buff to buff-brown.

140. Gully. Fragments. Shallow groove on outer rim face and low ridge at junction of rim and body. Fine clay with one or two impurities. Grey-buff to brown-buff.

Form 35. Jug, with thick, grooved rim. Fig. 14, p. 81.

Rare. Just two rims belong to this form. They are oblique, thick, partially rounded on the exterior and decorated there with one and three grooves respectively. The rim sits on a slender neck, which widens as it drops. Even though no sign of a handle exists, the size of the mouth and its likeness to Form 36 indicate the shape as a jug. In fact, the similarity with Form 36 is so pronounced that it might be regarded as a sub-class of that form. 142, in particular, is so close that perhaps it is only suffering from a distorted neck angle. (It is fired grey.) 141, however, demonstrates greater differences and is more plausibly a type in its own right. Fine clay, fired buff-brown.


142. Kiln, phase III. One or two small impurities in the clay. Grey.

Form 36. Jug, with thick, grooved rim and vertical neck. Fig. 14.

Quite common. Although the angles of the heavy rim are normally rounded, its section is roughly triangular. Its inner, oblique face curves in for a concave recess. The outer face is vertical and is ornamented with a single, shallow groove. The under faces strike horizontally back towards the neck and can be undercut. The neck itself is vertical. The handle springs from halfway down it and drops straight on to the shoulder of the pot. It was roughly square in section (three sides concave, the fourth convex). Five or six such handles were found and vestigial attachments on some necks show that they should all be assigned to this form. No other type of handle could be securely attributed to it. The neck occasionally exhibits a projecting ridge, but its roughness suggests that it is not decorative. It may be connected in some way with the handle, for it corresponds approximately with the height of its upper edge. There are few clues to the body shape: one handle attachment reveals an oblique shoulder. 143 may well have had a ring-foot base: one of identical fabric and appropriate size was found near it (146). But there is no proof that such a base was regular. Clay moderately fine, but containing impurities. Surface colour uneven: ideally buff or brown, but giving way to orange, pink or (frequently) grey.


144. Surface. Two fragments of a handle, including part of the neck which it joined. Surface cracked in several places. Buff-brown.

145. Kiln, phase III. Handle, with shoulder attached. Dirty buff.

146. Kiln, phase III. ½ base, with ring-foot, plausibly belonging to rim 143. Pale grey-buff.


Form 37. Jug, with 'candlestick' neck. Fig. 14, p. 81.

Rare. No two specimens are identical, but all are collected here for convenience. The name describes a jug which has a tall, narrow neck with a pronounced ridge at half its height. Profiles above and below the ridge are similar, so that the neck is in a sense double, the upper half repeating the lower. The lip flares out, but does not necessarily form a distinct rim. A strap handle is vouched for twice, springing from just under the neck-ridge. In a third example, the handle is of uncertain type (possibly a strap) and is attached just above the neck-ridge. The body and foot shape is unknown. 156 is larger than the norm. Fabric fairly fine, but varying from one vessel to another.

156. Ploughsoil. Rim, which turns out and overhangs, is a bit pinched and distorted at one point. Ridge under it caused by uneven turning. Decorative groove just above main neck-ridge, below which survives the end of a strap handle c. 2-5 cm. wide. Fine clay, with a few, small impurities, fired light grey outside, orange-pink inside.

157. Layer 5, contemporary with kiln. Flaring rim, flattened on top. Lip edge restored. Scar above neck-ridge, whence handle has broken. Moderately fine clay, with several impurities. Orange.


159. Kiln ash. Fragments. Slightly flaring lip. Strap handle, attached below neck-ridge, decorated with a pair of longitudinal grooves. Relationship of shoulder to neck not precisely known, but more or less as drawn. Fine clay, but with a sandy texture. Buff-brown, tinged faintly with pink.

Form 38. Jug, with low lip for pouring. Fig. 15, p. 82.

Rare. The two extant examples both have a narrow mouth, the lip of which is turned down to facilitate pouring. They have different rim profiles, however, one flat, the other up-turned, and the neck of 161 was taller than 160. Fine clay, covered with a colour-wash in the case of 160.


Form 39. Small Jar (?), with rolled rim and vertical neck. Fig. 15.

Unique. The short, extant neck is nearly vertical. It is topped by a delicate rolled rim, and a rounded ridge decorates it at the point where it is broken off below. Fine clay, containing a few impurities, probably covered with a brown colour-wash, now mostly lost.

162. Layer 5, contemporary with kiln. One fragment. Probably a brown colour-wash over a pale grey clay.

Form 40. Small, rimless Jar. Fig. 15.

Unique. The sloping neck continues the line of the body to the lip, where it flares out a little and is squared off. A decorative groove demarcates neck and body. Fine clay, covered with a dark brown, overall colour-wash, here misfired.


Form 41. Small Jar, with down-turned rim. Fig. 15.

Unique. Apparently a small, ovoid jar, whose lip is turned out and down, to form an overhanging rim. The lip is thickened. Moderately fine clay, containing impurities. Possible remnants of a brown slip to be seen inside.

164. Layer 5, contemporary with kiln. Fragment. Possible traces of a brown slip inside, conceivably once covering the whole jar. Clay otherwise grey-buff to brown-buff.

Form 42. Small Jar, with narrow mouth and no neck. Fig. 15.

Unique. The extant fragment reveals a noticeably flat shoulder, beginning to curve round for the belly at its lower end and at the other end turning sharply up to form the lip of a narrow mouth.
The lip's outer face is vertical; the inner bulges towards the centre in a rounded projection. Fine clay, with a few impurities.


Form 43. Jar, with out-rolled rim. Fig. 15, p. 82.

Rare. The rim consists of a heavy, projecting roll-moulding. The wall below it widens a bit towards the belly, but the precise shape of the lower portions is lost. Fairly fine clay, fired brown once, once orange.


Form 44. Jars (?) with out-turned rims. Fig. 15.

Fairly rare. Three seemingly diverse types are included under the one form in default of evidence to distinguish them more closely from each other, for all bodies and bases are missing. In each case, this has made it difficult to decide whether a piece was more properly a jar or bowl. All share a more or less horizontal, out-turned rim on a fairly upright wall. Individual fabrics vary. (i) 168 and 169 call to mind the profiles of some jars with angled neck, though the angle is here absent (Form 26); the rims are superficially curved and turn down fractionally. (ii) 170 has a thin, wide rim, again superficially lightly convex; a groove ran round its upper body. (iii) 171 is a heavier vessel, whose rim turns out gracefully. Its mouth seems to have been as wide as its belly.


169. Kiln, phase I or II. Moderately coarse clay, covered by a colour-wash. Light brown, mottled with orange.


171. Layer 5, contemporary with kiln. Fragments. Fairly fine clay, but not excluding some large impurities. Orange.

Form 45. Jar, with vertical, rimless neck. Fig. 15.

Unique. A short, vertical, rimless neck, surrounding quite a wide mouth, turns through almost 90° at its base to merge with a remarkably flat shoulder. The rest of the vessel is lost, but is more likely to have been a jar than a small-diameter pipe (cf. Form 46). Moderately fine clay, with many small impurities.


Form 46. Pipe. Fig. 15.

Rare. Many fragments of a wide pipe, with inset neck for joining with the next pipe in a row, were found in ash from the last phase of the kiln. There is every reason to suppose that it was a kiln product (in primis because of its fabric). A few similar fragments came to light elsewhere.


174. Kiln, phase III. Many fragments, representing at least the length drawn, but with no sign of the pipe's opposite end. Fairly rough work, although the clay is fine (despite a few impurities). Surface mottled buff, pale orange, pink and pale grey.

Form 47. Ring-support. Fig. 15.

Rare. A broad, flat terracotta ring has an oblique, bevelled inner face, which was clearly designed to support some curved object. A little surprisingly, it is quite flat in section. The under surface of the ring is fairly flat, although it turns down a little at its inner and outer edges, suggesting that it rested in its turn on an object with a narrow edge. The fact that, in both examples found, the under surface was not horizontal may be due to error. The upper surface is more elaborate and splays out in section towards the inner face. At its outer edge, it curves gracefully over in one specimen, while in another it is embellished with a prominent, rounded projection. Clay moderately
fine, but with many impurities, fired once brown, once grey. Conjecturally, the rings were intended to support pots during cooking. They could also have been used as supports in the kiln itself during firing, but the evidence suggests otherwise. One would have expected them, in that case, to produce a narrow, banded firing-ring on the vessel being baked, whereas all observed firing-rings discoloured not just a narrow band, but the whole base of a pot. The normal practice was to stack vessels directly on each other when required, one resting in the mouth of another below. (The diameters of firing rings generally prove that similar forms were stacked together.)


Form 48. *Lid.* Fig. 15, p. 82.

Very common. The central knob usually has a flat top. Solid when small, it tends to be more hollowed out from underneath as the size of the lid increases. The sides slope obliquely down and the edge generally turns up to make a simple rim. Occasionally, however, a lid is rimless. Clay moderately fine, as a rule, including impurities, and fired brown or orange.


179. Kiln, phase I or II. Presumed to be a lid—though rimless—as the fragment is broken very close to the centre. Fine clay. Light brown-grey.


182. Layer 5, contemporary with kiln. Rim somewhat angular in section and heavier than the norm. Fine clay, containing a few impurities. Light brown.

Form 49. *Grooved Lid (?).* Fig. 15.

Unique. The exterior curves down at the lip and is decorated with a pair of parallel grooves. The lip itself is heavy and flattened. The centre is lost. The under surface as a whole is noticeably bumpy. It is this that inclines one to see the specimen as a lid rather than a shallow plate. But the latter possibility is not excluded, for the bumpy surface may be caused in part by faulty firing.

183. Layer 5, contemporary with kiln. Moderately coarse clay, orange above, grey-brown below.

Form 50. *Ornamental Lid.* Fig. 15.

Rare. Although no more than the rims of two specimens were found, the form is plausibly a lid and apparently a fairly large one. Each example had a vertical ridge at the point where the rim normally rises, beyond which were two projecting flanges pointing obliquely, one up, one down. These were pinched together at regular intervals, giving the rim its characteristic 'pie-crust' decoration.

184. Surface. Diameter approximately as shown, provided the lid is not warped. Of this there was no clear indication. The clay is grey, but the surface orange, to brown underneath. Clay moderately fine, but with several impurities.

185. Layer 5, contemporary with kiln. Diameter and angle more or less correct, but lid a bit warped. Moderately coarse clay. Orange to grey.

Form 51. *Miscellaneous Bowls, with thickened, projecting rims.* Fig. 16, p. 83.

Five single specimens, each with a different rim profile. Perhaps none of them are related typologically, but they are for convenience grouped together. The lower portions of all these bowls are lost and what is left of the walls, particularly of the finer pieces, may suffer from distortion. Their fabric varies from piece to piece.


THE BRITISH SCHOOL AT ROME

188. Kiln, phase III. Thick, flat-topped rim wall. Original diameter unknown, as piece warped in firing. (Implied diameter between 25 and 40 cm.) Fine clay, with a few impurities, fired pale grey.

189. Gully. The rim has an angular, external projection. The pot is warped and the diameter it indicates is implausibly large. Fine clay, with a few impurities, fired buff-brown.

190. Kiln, phase I or II. Pointed, projecting rim, with rounded upper surface, on fairly wide wall. Moderately coarse clay, fired brown to red-brown.

Form 52. Flat-bottomed Dish. Fig. 16, p. 83.

Common. The basic shape has a flat bottom, a short, oblique wall and a projecting, down-turned rim. The inner wall-face is generally slightly concave. The transition to the bottom is abrupt, the wall being occasionally undercut. The outer wall-face is often unevenly turned and is habitually thickened where it joins the base. The profile of the down-turned rim varies in detail, but the angle is fairly constant. Two dishes have abnormal rims. In 196 the rim is less pronounced than usual and is horizontal. In 196 there is no projecting rim at all; the lip is merely thickened. Fabric mainly moderately coarse. A majority of pieces are fired a uniform, medium brown.


192. Kiln. Moderately fine clay, but with small impurities. Fired a uniform, medium brown.

193. Layer 5, contemporary with kiln. Heavier rim than usual. Clay fired a uniform, medium brown, but the surface darker outside the dish than inside.

194. Layer 14, early period of pottery. Diameter approximately correct. Fired a uniform, medium brown.

195. Kiln, phase I or II. Lower external angle partly restored. Inner wall-face undercut, where it joins the bottom. Moderately fine clay, but with impurities. Brown.


197. Final collapsed wall of kiln. Diminutive, horizontal, projecting rim. Misfired—blistered, crazed and disintegrating surface, ranging in colour from orange through medium brown to dark grey.

Form 53. Mortarium. Fig. 16.

Unique. Wall oblique and curving, ending in a squared lip. Found in a layer of kiln ash, which also contained one or two tile fragments. These may have come from the kiln walls, which were built of material of this size, packed in clay. The mortarium too, therefore, may have been used in the construction of the kiln and hence pre-date it.

198. Kiln, phase II (?). Moderately coarse clay, with many impurities, which project through the surface on the interior (and a few on the exterior, too). Buff.

Form 54. Tall, Ring-foot Base. Fig. 16.

Rare. A few examples were found, all of a similar, delicate nature, which implies that they belonged to a form, or forms, of modest size; but the foot was never found attached to its vessel. Fine clay, covered with a brown colour-wash.

199. Kiln, phase I or II. Warped, so diameter and angle only approximate.

200. Kiln, phase I or II. Slightly mis-shapen and height of foot varies a little from one side of the base to the other.

Form 55. Ring-foot Base. Fig. 16.

Not common. The average size is that of 204. Specimens appreciably larger or smaller are rare. The normal profile of the foot approximates to a rounded exterior, with flattened inner and under faces meeting at an angle. But the variations of this theme are extensive. The majority of examples belonged to a closed form, or forms. Various jugs would be appropriate, especially Form 36, which in at least one instance seems to have had such a base (cf. 143, 146). But it is possible that any one particular form was not always given the same type of foot. Clay normally fine, with a few impurities, and fired buff, when not pink or grey.
201. Gully. Small base of an open form, plausibly from a bowl with flaring wall (Form 14, 55) which was found nearby and shares its fabric. Fine clay. Buff-brown mottled with pale grey underneath.

202. Final collapsed wall of kiln. Base partly restored. Turning ridges and marks inside indicate a closed form, albeit a small one. Fine clay, covered with a brown colour-wash—mottled outside and dark inside.


204. Ploughsoil. One or two impurities in fine clay. Buff to pink or brown.


Form 56. Flat Base, with flaring wall. Fig. 17, p. 84.

Common. Although termed flat, the base is habitually slightly concave. The wall flares away from it a little as it rises. The size remains constant and the corresponding form, or forms, were closed. Jugs with horizontal rims (Forms 30 and 31) may always have had such a base and at times other forms too. Fabric fairly uniform—quite fine clay, often with a few impurities, fired buff or light brown at its best.

206. Kiln, phase II. Moderately fine clay, containing a few impurities. It has split in firing, so some distortion may be present. Orange-brown.

Form 57. Flat Base, with rounded edge. Fig. 17.

Quite rare. The exterior resembles a ring-foot, but the base itself underneath is not recessed. The size does not vary much. The corresponding form, or forms, seem to have been closed and probably included the globular jar (Form 34).

207. Ploughsoil. Moderately coarse clay, with large impurities. Light brown, paler inside.

Form 58. Flat Base. Fig. 17.

Very common. Habitual for forms small and large, open and closed. Small flat bases were often found still attached to their original vessels, so only the larger versions are treated here. Most of those recovered came from closed forms, among which the jar with angled neck must frequently have figured (Form 26). As with that particular form, the fabric varies considerably from piece to piece.

208. Kiln, phase I or II. Fairly coarse clay. Brown to pale red-brown.

209. Kiln, phase III. Fine clay, including a few impurities, which has cracked inside round the bottom. Orange.

Form 59. Large Jar, with horizontal handle(s) and spout. Fig. 17.

Unique. The base is very slightly concave. From it the wall rises obliquely to a wide belly at about half the jar's height, whence it turns back towards the mouth. This was broad and apparently possessed an up-curved rim. (The fabric and find-spot of the extant rim fragments agree with the rest of the jar, even if a physical join cannot be made.) Just beneath the rim was a large spout, only the lower part of whose circular opening survives. Below this again ran a band of five neat, decorative grooves, square in section, encircling the pot. At their level, but applied over them, was a horizontal strap handle, probably one of two. The extant example is crudely shaped and ornamented with three, wide, horizontal grooves; it forms a flat loop, big enough for one's hand. The relative positions of handle(s) and spout are not known, but the latter is likely to have come between a pair of the former. The spout was definitely not placed immediately over one of the handles (where it is drawn for convenience in the section). Moderately coarse clay, mostly grey, but orange in places.


Form 60. Jar (?), with squared rim. Fig. 18, p. 85.

Unique. An oblique rim, with flattened, squared lip, forms the broad mouth of a fairly small form.

211. Final collapsed wall of kiln. Fine clay, with a few impurities. Brown.
Form 61. *Jar, with tapering, down-turned rim.* Fig. 18, p. 85.

Unique. A slightly down-turned rim, tapering to a point, crowns an apparently oblique, but straight wall. A kiln waster.

212. **Final collapsed wall of kiln. Angle only approximate owing to slight distortion of rim.** Moderately coarse clay. Brown: the interior mottled with grey and the surface crazed, or split, in places.

Form 62. *Large Bowl, with horizontal handle(s).* Fig. 18.

Unique. The curving, oblique wall terminates in a rounded lip, a little thicker than the wall and separated from it by a slight depression inside and outside. The two attachments of a loop handle are extant on the upper wall. Its section was round; at the point of break there is a suggestion that the angle of the handle rose somewhat above the horizontal. A similar handle opposite, on the other side of the bowl, is probable, but has been lost. The find-spot suggests that this piece was used in the construction of the kiln and therefore pre-dates it; but the absence of wear and the fact that it was misfired suggest a product of the pottery, from an earlier period of its operation.


Form 63. *Beaker, with short, out-turned rim and handle.* Fig. 18.

Unique. The short rim is almost horizontal and has a thickened, rounded lip. A pair of shallow grooves adorns the upper body. The upper attachment survives of a narrow strap handle, bearing three longitudinal grooves.

214. Surface. Fragment. Fine clay, including one or two impurities. Brown and possibly covered with a colour-wash.

Form 64. *Small Bowl, with inward projecting lip.* Fig. 18.

Unique. The lip is widened on the interior to make a projecting edge. The wall itself is slender—a continuous, clean curve on the exterior, decorated with a single groove just below the lip.


Form 65. *Small Jug, with thickened, flat rim.* Fig. 18.

Unique. On a slim wall sits a thick lip, broadening in two stages. The top is flat, the inner face slightly recessed. The strap handle appears to have been at least 1·5 cm. wide, to judge from its upper attachment.


Form 66. *Small Jar (?), with thickened lip.* Fig. 18.

Unique. A curving, slender neck surrounds a comparatively wide mouth. The lip is rounded and thickened a fraction.


Form 67. *Rimless Pitcher.* Fig. 18.

Unique. A narrow, gracefully curving neck ends in a flat lip. Just beneath this, outside, is a single decorative groove and at the lip itself a faint ridge, perhaps caused inadvertently during turning. A pair of opposite strap handles, with one longitudinal groove each, spring obliquely upwards from under the lip, but soon bend over, to drop more or less straight on to the shoulder.


Form 68. *Bowl (?), with oblique wall and thickened rim, flattened underneath.* Fig. 18.

Unique. Related to Form 16. Not securely identified as a bowl.

A ROMAN POTTERY NEAR SUTRI  

Form 69. *Jug (?), with projecting, squared rim.* Fig. 18, p. 85.
Rare. Extant rims of two vessels, one medium-sized, one large. Both have a squared, protruding rim; its upper surface is a little concave and the outer face is embellished with a wide groove. The mouth is comparatively narrow, which suggests a jug (or pitcher) rather than a jar, even though no handle has been preserved—nor any other part of the vessel.


Form 70. *Large Jar (?), with rolled rim.* Fig. 18.
Unique. A heavy roll-moulding, projecting externally, crowns a substantial wall. The mouth is rather small for such a size, and conjures up the picture of a vessel with a distinct neck on a wider body—perhaps more properly a jug, or pitcher, than a jar. Kiln waster.

222. Ploughsoil. Moderately coarse clay, incorporating many white, crystalline calcite chips. The apparent absence of mica may be caused by an effect of misfiring, as clay and surface are grey.

Form 71. *Bowl, with thick, flat, projecting rim.* Fig. 18.
Unique. Only the rim exists, noticeably wider than the wall. The inner bowl face tends towards the centre, as it curves in an unbroken sweep up to the lip. The outer swings out to a rounded projection, whose contours it follows on to the flat upper rim surface.


Form 72. *Jar (?), with vertical rim.* Fig. 18.
Unique. The rounded, slightly thickened lip tapers gradually back to the width of a stout wall, but it is hard to tell whether the form is a jar or a bowl.


Form 73. *Bowl, with out-rolled rim.* Fig. 18.
Unique. A curving wall rises to a rounded lip, which has an unaccentuated, external roll-moulding. Probable kiln waster.


Form 74. *Jar, with out-turned, wedge-shaped rim.* Fig. 18.
Unique. The oblique rim looks like a wedge in section, tapering from a flat end down to the width of the wall, with straight upper and lower faces.


Form 75. *Form with heavy, horizontal rim.* Fig. 18.
Unique. This fragment has a heavy profile, diminishing its breadth by two steps, visible underneath. The outer face has a concave recess or groove; the upper curves evenly over into the vessel. Possibly not a kiln product.

227. Surface. Fine clay, of a sandy texture, containing one or two impurities. No visible mica. This, and the very abraded appearance of the find, make one doubt whether it could have been made by the pottery.

Form 76. *Shallow Bowl, or Dish, with horizontal rim.* Fig. 18.
Unique. A flat, thick rim, from whose inner edge the wall drops obliquely towards the centre. Possibly not a kiln product.

228. Surface. Diameter almost impossible to determine, but likely to be of the order shown. Moderately fine clay, of a sandy texture. Brown, tinted with grey-brown above. Noticeably abraded.
THE BRITISH SCHOOL AT ROME

Form 77. Jar, with horizontal rim, overhanging at its end. Fig. 18, p. 85.

Unique. A wide, horizontal or slightly canted rim is turned down at its outer end and, at its inner end, meets the inside of the jar at an angle.


Form 78. Bowl, with hanging rim. Fig. 18.

Unique. Unless one is dealing with the distortion of a kiln waster (of which there is no evidence) this represents the rim of a wide bowl, turned vertically down.


Form 79. Jar, with undercut, half-almond rim. Fig. 18.

Unique. The rim of a wide-mouthed, substantial jar, whose lower portions are lost.

231. Surface. Angle and diameter approximate. Fairly coarse clay, with little or perhaps no mica: but this point is hard to determine because of the presence of many calcite crystals. Dull orange.

Form 80. Plate, on pedestal foot. Fig. 18.

Unique. A substantial, flat dish, apparently supported on a pedestal foot (broken). Its outer face is slightly rounded; otherwise the plate (if that is what it is) is quite featureless. The diameter indicated by the surviving portion is certain, within the limits shown, but seems too big, in relation to the position of the foot. A problem-piece.

232. Surface. Fragment. Fairly coarse clay, of a gritty texture, fired a dirty light brown or grey. But traces of an orange-brown colour-wash can be seen under the foot.

Form 81. Bowl, with ornate rim. Fig. 18.

Unique. The diameter, provided there is no distortion, suggests a wide bowl. Basically the elaborate rim consists of a major down-turned flange, above which is a minor protruding one. The main flange has been given a slightly wavy outer edge and the minor flange above it finger-pinched horizontally to form a series of regular projections. The lip has been scalloped at equally regular intervals to give it a serrated elevation. The inner face, which also projects a little, has been scalloped obliquely, again at set intervals. A kiln product.

233. Surface. Diameter approximate. The wavy profile of the existing portion of the bowl makes distortion possible. Fairly fine clay, but including impurities, some of them large. Bright orange. Fragment unabraded and not marked by wear in any way.

Form 82. Closed Form with rouletted decoration. Fig. 19, p. 86.

Unique. One fragment from the wall of a closed form is embellished with a pair of parallel grooves. These bound a band of rouletting, of which three rows are visible. In two of the rows the strokes are double. The existing piece has been drawn as if from the lower wall of a vessel, but there is no telling which way up it should really go.

234. Surface. Fine clay. Probably a brown colour-wash once, inside and out, now mostly lost.

Form 83. Form with rouletted decoration. Fig. 19.

Unique. A vessel reminiscent of Form 82, but not certainly closed. At least thirteen rows of rouletting are vouched for, the individual strokes of which are quite wide. Three rows are so continuous as to form unbroken grooves, one of which is oblique. The lowest two rows are poor work, strongly suggesting that the extant pieces came from the lower part rather than the shoulder of the vessel. Kiln waster.

A ROMAN POTTERY NEAR SUTRI

Form 84. Closed Form with pie-crust decoration on shoulder. Fig. 19, p. 86.

Unique. On the basis of turning ridges visible in the interior, the extant fragment seems to come from the shoulder of a closed form, even if the wall grows more slender lower down. On the angle of the shoulder the clay was repeatedly pushed sideways, while pliable, to make a series of overlapping ‘waves,’ like a pie-crust. Possibly a kiln product.


Form 85. Closed Form with finger-impressed cordon decoration. Fig. 19.

Unique. Immediately below the cordon was an original, oblique opening, one side of which survives, bevelled back at 80°, so that the inner edge cannot be seen from the exterior. Extra clay near its present upper break implies that the opening ended just under the cordon. The fragment seems the correct way up, as thus its lower portions are thicker. Turning ridges and a bumpy surface mark the interior. Some type of stand, perhaps for cooking, rather than a jar (?) (cf. Form 91).

237. Ploughsoil. Angle and diameter approximate. Fairly coarse clay. Medium brown surface, which crazes in fine lines and disintegrates.

Form 86. Small Form with protruding belly. Fig. 19.

Unique. One middle-wall sherd vouches for a profile which curves obliquely up from the lost base, then constricts sharply, before continuing more or less vertically, curving in finally as it approaches the lost rim. The dearth of internal turning ridges inclines one towards an open form, but in a fine vessel their absence is not altogether conclusive.

238. Surface. Fine clay, with a few impurities. Orange. Uncertain whether there was once a grey colour-wash inside and out.

Form 87. Closed Form with angled wall. Fig. 19.

Unique. The profile of this form turned through nearly 90°, protruding considerably at the same time. It is not clear which way up the pieces should be and there may be distortion. Rest of form lost. Plausibly a kiln product.

239. Ploughsoil. Fragments from level of angle. Fine clay, with a few impurities. Bright orange surface.

Form 88. Large, open Jar, with rolled rim. Fig. 19.

Unique. A heavy roll-moulding terminates the wall. This curves steadily in to meet a flat base, still at an angle which is remarkably upright. The height of the jar is not clear, except within broad limits, as the middle-wall is lost and the diameter of the base is not precisely determinable.

240. Surface. Rim fragments and one base fragment. The latter is too short to reveal its diameter. Coarse clay. Orange surface, speckled with impurities.

Form 89. Large, open Bowl. Fig. 19.

Unique. The upper wall tapers gradually to a squared lip. Kiln waster.

241. Ploughsoil. Profile, angle and diameter all approximate because of distortion. Despite the size, the clay is moderately fine, but contains several impurities, some large. Light brown.

Form 90. Form with squared lug. Fig. 19.

Unique. The short, thin lug alone survives, with a little of its pot wall attached. It was more or less square in plan. It was not the broken end of a strap handle, but a lug in its own right. A faint turning-ridge inside seems to imply that it lay at about 45°, on the upper wall of a closed form. It is unlikely to come from the lower part of a vessel, since one noticeably rougher side would then be apparent.

Fig. 7.—Pottery from Kiln. Form 1 (1 : 3)
Fig. 8.—Pottery from Kiln. Forms 2–7 (1:3)
Fig. 9.—Pottery from Kiln. Forms 8-17 (1:3)
A ROMAN POTTERY NEAR SUTRI

Fig. 10.—Forms 18-25 (1:3)
Fig. 11.—Form 26 (1:3)
Fig. 12.—Forms 27-29 (1:3)
Fig. 13.—Forms 30–33 (1:3)
Fig. 14.—Forms 34–37 (1 : 3)
FIG. 15.—FORMS 38–50 (1:3)
Fig. 16.—Forms 51-55 (1 : 3)
Fig. 18.—Forms 60–81 (1:3)
Fig. 19.—Forms 82-92 (1:3)
A ROMAN POTTERY NEAR SUTRI

Form 91. *Cooking Stand (?)*. Fig. 19, p. 86.

Rare. Only two fragmentary examples were found and that is presuming that the less complete one belongs to the same form. The better preserved (244) apparently rested on an oblique wall. On this, externally, was a projecting, heavy rim, with rounded upper surface. Internally, cantilevered towards the centre, was a horizontal flange, likewise heavy, but of varying width when seen from above. On the extant fragment this flange increases steadily from being virtually non-existent to something over 2 cm. broad, before it is broken off. Its inner edge is not quite straight in plan. Of the less well preserved specimen (243), part of the flange survives, thicker, but still tapering in plan, even if less abruptly. In this case, however, the flange also tapers in elevation towards its less broad end, as well as apparently dropping slightly in the same direction. Its external face is smooth, with two breaks above and below, conjecturally leading to wall and rim.

243. Ploughsoil. Fragment. Diameter approximate. Angle seems correct as it agrees with turning marks on the outer face and on the flange's under surface. If so, the flange drops towards the right and, since it gets thinner too, its upper surface does so markedly. Moderately coarse clay. Brown, speckled with orange, becoming grey-brown underneath.

244. Surface. Fragment. Fairly coarse clay. Light orange-brown. No burning or wear.

Form 92. *Mortarium, with decorated flange*. Fig. 19.

Unique. The heavy rim projects in a rounded curve. Beneath it an equally heavy flange is applied to the outside wall, modelled to simulate a serpentine, rope-like pattern.

245. Surface. One fragment. Moderately fine clay matrix for many impurities, which include large particles of mica. Buff, with pale green tint, speckled profusely with black impurities. No obvious wear.

III. CONCLUSIONS

In pre-historic and Etruscan times, the whole ridge where the pottery later came into being was covered with forest. It was first cleared and settled during the Roman Republic, perhaps mainly from the second century B.C. onwards. Until then, the conquest of Etruria, and the presence of Hannibal in the Second Punic War, had not encouraged people in this district to live in the open countryside.

Site II illustrates the Republican period. It marks the earliest occupation of this particular spot. But the sherds recovered do not provide a precise date and the absence of excavation left the nature of that occupation uncertain. The fact that the land had been cleared and the ground disturbed by cultivation suggest a small farmhouse. One or two early features in the excavation itself may belong to the same period. Possibly a third, adjacent site should also be included, site III; but it was not explored and its history is unknown.

At the end of the Republic, the Triumvirs or Octavian planted a colony at Sutri, and the town enjoyed a period of comparative prosperity in the early Empire. The consequent guarantee of a sure market may have stimulated the local ceramic and brick-making industry which then developed. At least two potteries and two brick-and-tile kilns were operating about this time within 2½ km. of Sutri. Each was a small affair, aiming to cater solely for the needs of the district. All were located on the same ridge, the only deposit of clay so close to the town, the nearest alternative source lying about 5 km. to the south-west. The two potteries produced very similar wares. The minor divergences between them may be caused by a slight difference in date, since surface finds at the second pottery have included a

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4 *PBSR*, xxvi (1958), p. 98 ff.: sites 704828, 713823 (the present excavation), 714814 and 726815 (confirmed as a pottery since 1958).
sherd of red polished ware (*terra sigillata chiara*), perhaps implying manufacture as late as the turn of the century. It is the output of this local ceramic industry that is illustrated by the current excavation.

The excavated pottery began operating under the Julio–Claudians, probably towards the middle of the century. A stratified sherd of *terra sigillata* confirms this date. Because of the limited number of finds from this period, not much can be said about the wares made. They resembled subsequent production in quality, but not closely in form.

A building with concrete walls was apparently erected at the same time. One might reasonably expect it to have been a combined house and workshop for the potters, but proof is lacking. It was a simple building and it is possible that it was never finished.

A break had occurred after the early period of production. But this may mark a change of management or policy, rather than an actual interval of time.

The main production of the pottery fell in, or very near, the decade A.D. 60–70. The evidence of coins, *terra sigillata* and lamps, and the absence of stratified black-glazed ware or of red polished ware, unite in this conclusion.

Most of the material recovered represented the output of this main period. It was remarkably uniform, whether it came from the kiln which was excavated or from elsewhere on the site. Division of the period into three phases, based on the vicissitudes of the kiln itself, had virtually no echo in the typology of the wares produced. Production, therefore, was continuous and probably did not last very long.

It is difficult to estimate how big the pottery was. A kiln other than the one unearthed was in use during the earlier period of production. The excavated kiln operated throughout the main period and could, in theory, have been the only one then in existence. The number of sherds in the visible rubbish heaps and collected during the digging was not so large as to make this impossible. But the presence of another kiln or two is perhaps more likely. Clearly, however, the scale of operation was not great and sales must have been limited to the environs of Sutri.

The range of wares made was wide and the quality high in the finer vessels. The potters were skilled in their trade. They did not sign their work, however, and there is no further clue to their identity.

The concrete building was, at least in part, already out of use during the main period of the pottery. When production ceased, there is no trace of any subsequent occupation of the site.

The value of the excavation lies in the recovery of a complete cross-section of the output of a pottery in the third quarter of the first century A.D. Although the distribution of its own particular wares may not have reached very far afield, the similarity of its products to those of another local pottery and, more telling, the general likeness of contemporary output in an area as far away as the Ticino show that parallel work may be expected over an extensive area of the Italian peninsula. This dated group of pottery will, it is hoped, be of use to future excavators in determining their chronology and may perhaps stimulate others to help fill what is at present a major lacuna in the equipment of the field archaeologist in central Italy.

G. C. DUNCAN
EARLY MEDIEVAL FORTIFICATIONS NEAR ROME
(Plates XX—XXXII)

The few scholars who have specialised upon military architecture in Italy have, very naturally, concentrated their attention on the spectacular work of the thirteenth to the sixteenth centuries, chiefly in Apulia and Sicily, to a lesser extent in the North; Central Italy as a whole, has been neglected, and particularly the neighbourhood of Rome. There alone can the unimpressive fortresses of the early middle ages be seen in abundance, most of them untouched except by natural decay, because they were not rebuilt when their obsolescence became recognised, but abandoned—in a large number of instances, so documents imply, during the fourteenth century. This article is an attempt to trace the course of local development down to 1300, as shown mainly at certain key-sites. The argument rests on a basis of combined archaeological and documentary evidence; the former is limited by the amount of field-work done by my predecessors or by myself, the latter I have derived entirely from the regional historians of the past hundred years.\(^1\) Investigation of sites not yet reported, and of documents not yet searched for relevant information, should eventually lead to a more precise chronology than is now feasible. The possibility of new archaeological discoveries is exemplified by the instance of Old Palombara, an entire deserted town which seems to have escaped the notice of scholars specifically concerned with such matters; I should not have thought of going there if Mr. G. D. B. Jones, of the British School, had not recently come upon it. My description and interpretation of that site, and of Paterno, Morolo and several of lesser importance, owe much to Mr. R. J. C. Jamieson, A.R.I.B.A., A.R.I.A.S., who has allowed the publication of his drawings (based on sketches and measurements of 1960).

On historical grounds, it would seem that, for several centuries after the collapse of the Roman Empire, the fortifications built in Latium were few in number and large in scale; the extant remains agree with that supposition, but are too scanty to corroborate it. The walls of Rome itself were repaired or altered half a dozen times before the last recorded restoration in 547, by Belisarius,\(^2\) after which the shrinkage of population must soon have reduced their utility. The huge acropolis of Ardea, disused since Republican times, must also have been restored, though merely as a temporary fortress, with the addition of an elongated solid tower which ends in a beak—a common Byzantine feature; this work, too, I ascribe to Belisarius,\(^3\) though typologically it has little in common with his enceinte at

\(^1\) Bodo Ebhardt, *Die Burgen Italiens*, ii, 2, 1910 (?), and iii, 1916, is cited as ‘Ehb.’ G. and F. Tomassetti, *La Campagna Romana*, i–iv, 1910–26, as ‘Tom.’ References to the *Carta d’Italia* 1:25000 are given by the name of the sheet and its co-ordinates, each to three figures. I am greatly indebted to Mrs. Anne Kahane for taking me to see many of the fortresses noted during the British School’s survey of the country north of Rome, as well as several in other directions. Mr. G. D. B. Jones kindly gave me information on sites he had investigated, and has allowed the reproduction of two of his photographs—the general view of Old Palombara and the detail of vaulting at Castel Morolo. I must also thank Mr. M. E. Mallett for saving me from error over certain documentary evidence.

\(^2\) I. A. Richmond, *The City Wall of Imperial Rome*, 1930.

\(^3\) *Acta Instituti Romani Regni Suevicar*, xxii, *Opuscula Romana*, iv, 1962—Boethius, pp. 36, 43. figs. 9, 10, and Lawrence, p. 44.
Terracina, and still less with the improvements at Rome that are attributed to him. The Byzantine influence presumably remained dominant throughout the Exarchate period, and may have lingered into that of the Frankish protectorate. Of Gregoriopolis, the little town which Pope Gregory IV founded in 830 on the outskirts of classical Ostia, parts of the walls have been preserved in the substructures of a comparatively recent enclosure, but their design can scarcely be recovered. Nor is sufficiently known of the original circuit of the Leonine City, the walls of 848–852 wherewith Pope Leo IV fortified the Vatican quarter, though the Greek name of his engineer, Agatho, hints at inspiration from elsewhere.¹

By that time, the Papacy was falling into servitute to the nobles; soon their dissensions gave rise to a multiplicity of gangster-baronies, and so initiated five centuries of civil warfare, in Rome and in the countryside. The city became packed with tiny castles, the majority consisting of a tower alone; no less than a hundred and forty were destroyed, truncated or otherwise demilitarised by the reformers of 1252–58. By then, similar towers were scattered over the entire district; sometimes the tower stood isolated or within a little yard of its own, more often it formed the strong-point in the external defences of a settlement. But no such towers seem to have been built when insecurity first drove the rural population to concentrate in towns and villages; the practice was to choose ground so defensible by its very nature as to require the barest minimum of fortification.

The most celebrated instance of migration did not, as is often assumed, involve the desertion of ‘New’ Falerii when Civitá Castellana was founded, before 727, on the site of the older, Etruscan, Falerii which had been destroyed in 241 b.c.² There, impregnable ravines almost surround a spur from the general table-land, leaving but one way of approach, across the neck of the peninsula, and that must have been ready-barred by an Etruscan ditch (the outline of which was finally obliterated by recutting about 1500); here and there, too, stretches of Etruscan wall were available for use after little or no restoration. The position is incomparably the strongest in the region, and the scattered population of the countryside can have had no hesitation in choosing it, when they decided to move. But by no means all the inhabitants of New Falerii joined them. That town persisted, concurrently with Civitá Castellana, till it was sacked in 1261, and survived so long, although situated on an open plateau, because it was enclosed within walls some ten metres high. The wall-circuit, though built about 200 b.c., can have needed only a modicum of restoration to be made tenable against any baronial force of the early middle ages; some portions do, in fact, display crude repairs, almost certainly of that period. Eventually, however, the perimeter must have been overlong to be defended, the population having dwindled, as is only too likely to have occurred generally throughout the area.

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¹ The remains in the Vatican Gardens are obviously of diverse periods, three of which must be late medieval. The semicircular tower on the Via Aurelia (at the former Porta Cavalleggeri) is attributed, because of the masonry, to the twelfth century. Between the Vatican and Castel S. Angelo the exterior is no longer visible, and the old drawings enable only a guess to be made of the period to which the lower portions might belong, though the upper are shown clearly as late medieval.

² PBSR, xxv, 1957, p. 155, fig. 26, pl. XXVII, for New Falerii, p. 128 ff. for Civita Castellana.
EARLY MEDIEVAL FORTIFICATIONS NEAR ROME

If early medieval builders looked to antiquity for models, they could have found no precedent suitable in scale and generally applicable (since it did not rely on natural advantages) except the primitive Republican wall of New Falerii, though sophisticated details could be adapted from the huge walls of imperial Rome. Incompetent features in the oldest medieval plans do, in fact, repeat the mistakes of Falerii. But there, too, the elevation was on too grand a scale to be imitated, even had there been wish to do so; the medieval people may have appreciated the advantages to be obtained from shooting through a wall, and there are no arrow-slits at Falerii. Its stone circuit consists of curtain-walls, 2 m. thick, mostly of some 30 m.—a bowshot—in length, between solid towers of the same height, over 5 m. wide. The towers seldom project appreciably more than 3 m. forwards, so forming square fighting-platforms, which would have been effective for long-range fire or against frontal attack. The slight projection did not allow of adequate flanking fire, the value of which obviously cannot have been realised; several bends in the perimeter are effected in the curtains instead of being covered by towers, some gateways stand at such a distance from a tower as seriously to reduce its capacity of giving protection, and two minor gates open on either side of a projecting corner in the curtains, from which direction virtually no protective fire could be given.

In the early medieval period, likewise, the towers do not project far enough from the curtains, corners are not masked by towers, the curtains sometimes bend unduly, and they contain gateways insufficiently flanked. These similarities could have resulted either through imitation or by mere coincidence. The alternative explanations imply, in the first case, that builders in that ghastly age held a generally reasonable but somewhat undiscriminating faith in the greater wisdom of the Ancients; in the second, absurdly, that the medieval people were so stupid as to ignore the precedents they saw, and start absolutely anew, making their own blunders, which happened independently to repeat some but not all of those perpetrated in the third century B.C. Actually they must have been obliged to invent a more or less new style, to suit the very thin walls to which their poverty constrained them, but probably they developed it through the synthesis of features adapted from any old monument then visible. The thinness of the structure made it easy to avoid one defect of Falerii, the lack of means of defence through the walls, but entailed the opposite disadvantage, inability to defend from the top. Instead of real towers, moreover, we find hollow salients uniform with the curtains in height and thickness, and open at the back (so that there is nothing to distinguish a‘tower’ from a bend in the curtain unless a return bend also is preserved). There was, of course, no difficulty whatever in placing arrow-slits wherever desired. The use of them was inspired, no doubt, by Aurelian’s walls of Rome, but the disposition is naturally less regular, and the shape quite different, there being no occasion, nor indeed space, for the deep arched embrasures in which the Emperor’s soldiers or their catapults had stood; the sides of an early medieval slit merely splay inwards without change of angle till they reach the inner face of the wall.

The device first occurs (to my knowledge) in a fortification of artless simplicity, such as befits the date at which records first allude to the place. The Emperor Otto III retired, ill or poisoned, ‘to a town (oppidum) named Paternum, not far from the city (civitate) called Castellana’; he issued diplomas, headed in Paterno, on 8 and
Fig. 1.—Castel Paterno: The Castle (R. J. C. Jamieson)
11 January 1002, and on the 23rd he died there. In 1244 a monastery in Rome held *possesiones* (farms or rentals) *in castro Paterni*; by 1499 the whole place had become a farm (*casale*), and in 1549 there is mention of the *castri diruti Paterni*. The site, now called Castel Paterno, is divided into a great empty space, formerly occupied by the town, and, alongside part of the ditch, a ruined castle, through which passed the more important of the two strong entrances. The castle, too, is now an empty enclosure (fig. 1) except where a mound, bordered with one remnant of masonry, probably indicates the site of a tower, close behind the ditch. The enclosing wall is built of tufa cut into large oblong blocks. On the south, half the length has fallen into the ditch, and on the east most has fallen down a cliff, but on the north and west, towards the town, the ground is flat and the wall stands in good condition (fig. 2; pls. XX, a, XXI, a, b). There, as also on the south, each face consists predominantly of blocks laid as stretcher. The upper courses are mostly enveloped by luxuriant ivy, but wherever exposed they terminate with a coping (underlaid by a chase) of headers, upon which presumably rested a parapet; it may have been wooden. Even on that supposition, there would not have been space for defenders to stand upon the wall, which is only 62–64 cm. thick, nor can a wooden walk have been cantilevered from it. Quite apart from the probability that the weight would have lifted a parapet of any type, there are no holes in the upper courses where supports might have been inset, except on the east side of the large northern salient, where apparently the roof-beams of some building were received. (A hint that this building may have been contemporaneous with the wall can be derived from a cramped niche which rises from ground-level beside the southward corner of the salient, and seems best suited to receive a door-post). We must, however, presume that the wall could somehow be defended from above, at any rate at the three corners where there are small salients which, unlike the curtains, contain no arrow-slits; each of these salients would have been worse than useless unless it were roofed by a wooden fighting-platform, which made it functionally equivalent to a

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For a general description of the site, and further notes on the castle, see Appendix I.
solid tower at Falerii. But, short as the span would have been, the walls of the salients were not strong enough to support such a roof; the weight could have been taken only upon a framework of posts and struts, though, to prevent lateral swaying, the wood could safely be pegged into the masonry. A comparable, but narrow, type of scaffold could have stood beside the curtains and carried a wall-walk (fig. 3); the much greater risk of swaying, to which it would have been subject, could best be countered by the same expedient of driving horizontal pegs into the wall.

![Diagram of a wall-walk structure]

**Fig. 3.—Castel Paterno: The Castle. Suggested Restoration of Wallwalk.**

(R. J. C. Jamieson)

A vast number of holes have, in fact, been bored, at one time and another, into the inner face of the castle wall, all along the north and west sides. Predominantly round, they vary greatly in size, and occur at any level within reach of the ground but seldom much higher. Some, especially those least regular in shape, are disposed as though at random, and can be attributed in the main to the farmers who occupied the abandoned castle. But two consistent sets of well-rounded holes, bored horizontally, and fairly evenly spaced (pl. XXI, a), are found everywhere at roughly one-third and two-thirds of the total height, which is approximately 4.30 m. These levels would not have been appropriate to a farmer’s vine-arbour, still less to the roofs of his lean-to sheds. Nor can the holes have been for putlogs, because they could have received nothing bigger than light poles. These would, however, have been adequate for pinning a scaffold such as is posited, and so keeping it secure from lateral movement, however active the defenders of the walk on top.
The arrow-slits at Paterno (fig. 2) are constituted by a gap between two specially shaped blocks laid as headers in a single course; the slits average 15 cm. in width externally and splay inwards to 30–45 cm., necessarily keeping the height unaltered, 32 cm. They occur always at two levels, which are not uniform on all stretches, probably to make allowance for inequalities in the ground. Usually the lower row clears the present ground by little more than a course, and the upper opens at breast-height; because an archer needed room for half the length of his bow beneath the arrow, we must assume either that a considerable depth of soil has since accumulated or that the lower slits were manned from trenches. The horizontal intervals between the slits vary greatly. Particularly notable is the provision for a concentration of archers either side of the inner gateway (fig. 2). But there was space there for still more slits, which surely would have been supplied if the defenders had not relied primarily on a wall-walk—and holes suitable for scaffold attachments exist all along, except above the gateway. Without a wall-walk, scarcely more than negligible fire could have been directed against the approach from the town, so ill-placed was the gateway, on the front of a large salient advanced from every part of the castle. The arch of the gateway (pl. XXI, b), in which two voussoirs meet at the centre, masked a wooden lintel; the inward jambs are composed of unusually large blocks, dressed, for decorative effect, alternately flush with the wall-face and projecting about 3 cm. The only other indication of care for appearances, and that perhaps at a much later date, is the fragment of a marble column, which probably divided a window that overlooked the steep drop to the owner’s fields. Except for scraps of that room, which seems to have been an addition, all the residential buildings have perished, and most of them probably consisted of wood. But the castle may well have met the highest standards of 1002 in those parts, and there are no grounds—in our present state of insufficient knowledge—for suspecting it of being later. The town, too, enjoyed ample space and a fair degree of security.

The Borghetto near Grottaferrata is another example, larger than Paterno Castle, of the same style, but at a fairly advanced stage of development. The position, though in a very different type of landscape, set the designer similar problems, which he treated with relative competence. The site, again, was flat and fully exposed to attack except on one side. There the Via Latina, or Anagnina, ran between the fortress and the verge of a fairly steep, grassy slope, an obstacle far less serious than the ditch and gully at Paterno (until the cutting of a modern road increased the gradient). The ends of the enclosure face continuations of the level ground, while the other long side can be approached up a scarcely perceptible rise. The perimeter could, therefore, have made a series of right-angled bends, as at Paterno; instead, the general outline (fig. 4) approximates to the curves of a loz-sided ovoid, but the wall proceeds by means of straight curtains at slightly divergent angles, and the resultant inconspicuous bends were all masked by hollow salients, which must originally have been uniform in height with the curtains.

The bends occur at fairly regular intervals, none longer than two-thirds of a bow-shot. There were, therefore, opportunities for flanking-fire along the entire perimeter, though restricted by the inadequate projection of the salients—usually to little more than 1·20 m. and exceptionally to 1·50 (pl. XXII, a). Only because the wall is remarkably thin (averaging, perhaps, some 75 cm.), could the flank of a salient accommodate an arrow-slit between the frontage masonry and the inward corner, and necessarily too near that corner to command a wide arc of fire. The slits are more efficient than at Paterno, for each pierces not one course of similar height but two (pl. XXII, b); the external opening measures 10 cm. wide, and the inner tends to be roughly square, though in some cases the splay is exaggerated and increases the width to nearer 80 than 60 cm. All the slits are at levels convenient to men on the ground (roughly 60 cm. above the present soil beside the curtains, 90 cm. in the salients). The spacing of the slits is irregular, and there were too few in the curtains to prevent attack. But there is no indication that the walls can have been defensible also from above. The top seems to have been out of reach from the roofs of adjacent buildings, because the numerous beam-holes (or maybe putlogs) are generally too low down and overlaid by too many uninterrupted courses of original masonry, as well as of replacements. On most sectors (other than those where the height has been much reduced), unseemly restorations begin at varying levels and continue to the present top—still, in places, some 10 to 12 m. above the ground outside. The restorers, at the middle of the fifteenth century, would have replaced a cantilevered walk if one had previously existed, and must have thought of adding one but decided that the walls were too thin to take the strain. A walk could, as at Paterno, have been raised on scaffolding, but the greater height would
have involved a disproportionate increase in the amount and size of the timber required, and scarcely a tree grows in the neighbourhood.

There remains yet another possibility, that the occupants of the Borghetto were expected to defend it almost exclusively by fire from the salients, not so much through the arrow-slits (though relatively numerous there) as from above, in accordance with the precedent visible at New Falerii. Any of the salients may have been covered with a wooden roof, and in two instances that can be presumed, but each of these was a gatehouse—one apparently constructed as such, the other probably converted from an originally blind salient of normal type. The latter, at the north corner, was almost certainly roofed, but perhaps not till the present gateway had been opened through its frontage; the question is whether the entire gatehouse or the gateway alone should be ascribed to the later period—probably to Cardinal Della Rovere’s renovation of 1477 (when the vault over a room behind is likely to have been added). The other entrance, on the south-east, was vaulted between its lost outer and existing inner gateways, but the presence of a corbel shows that a wooden ceiling had previously covered this vanished salient. Midway along the north-west end there are scanty relics of another salient that might have contained an entrance of the same type, till the north gateway of 1477 was substituted. No gatehouse rose higher than the adjoining curtains, so far as can be seen. Apparently a taller tower stood, perhaps till half a century ago, within the south corner, and was explained by learned visitors either as a belfry (there being a ruined church not far away) or, less plausibly, as a ‘keep’; there are, of course, many instances of a tower placed inside a castle, and some (e.g. at Corneto-Tarquinia and Catino) might be roughly contemporary with the Borghetto, but nowhere else would an enemy have found cover under walls close to the tower. A combination of belfry and look-out or signalling tower would make sense.

While a dating in the tenth century is indicated for Paterno castle, the improvement shown at the Borghetto may confidently be assumed to have required an interval of several generations, in the almost certain absence of extraneous influence. On the other hand, the Borghetto must already have been standing long before 1296, when it is first known to have borne the name of Castrum Montis Frenelli—expanded in slightly later documents to Castrum Burgi Montis Frenelli. There is certainly no stylistic obstacle to accepting also the current, though non-proven, identification with a Burgus de Tusculana mentioned in 1140. On that assumption, the fortress must have been built by one of the important Counts of Tusculum, presumably with the dual motive of establishing a strong outpost near the border of his territory and enabling himself to levy tolls upon the traffic that used the ancient road, which seems to have run straight through the site till he diverted it to the side. The enclosure is, however, too large to have been purely military; it must have contained a village, with or without a professional garrison.

A still more adept development of the same style, modified to suit a grander

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*Both appear to have been watch-towers; I refer later to that at Tarquinia. The castle at Catino is mentioned from 1047 onwards, and a palatium in castello Catini in 1096 (F. Palmegiani, *Rieti e la Regione Sabina*, p. 609, with two photographs). The separate tower is built with an ashlar-faced base of white limestone, and coigned with similar stone up to roughly half the total height around reddish masonry; the upper part is composed entirely of the reddish stone.*
scale, can be seen at a ruined town, 1.5 km. from Palombara-Sabina. Local
tradition retains the knowledge that the place was Old Palombara, though the
name given on the official map is Castiglione.9 The site (pls. XXIII, XXIV, a)
occupies the sloping top of the hill which rises 200 m. above the plain and is linked
eastward by a col to the range of Monte Gennaro. The town enclosure is not
limited to the highest ground but descends to near the col, across which runs a path
to the fertile valleys far below. On the north side the wall follows a shelf in the
limestone, along the almost straight edge of broken crags so steep that fortification
might have been perfunctory. Elsewhere approach is unimpeded and the gradient
easy, up to the spreading curve of the contours to which the course of the wall was
adapted; it keeps close to them by means of straight curtains, with salients of equal
to mask the bends. These occur at very irregular intervals, dictated by the
ground; no salients were built purely on military considerations, and an exceptionally
long curtain was placed on the sector most liable to attack, just above the col (and
some intervening buildings would have hindered rather than aided the defence).
The salients also differ quite noticeably as regards length of frontage, for no apparent
reason except to take advantage of rock foundations, and their projection varies
accordingly—near the most southerly point we find, in sequence, 80 cm., 1.05,
1.30, 1.30 again, and 2 m. The inadequacy of projection (even in the last example)
was compensated by provision for fire-power at any point. Except on the western
sector, which is in a different and later style, the perimeter was continuously backed
by houses, bonded in.10 On the south and east, enough remains to establish,
beyond question, that the houses were two-storeyed; the one exception (pl. XXIV,
b), a house of three storeys is due to reconstruction, and that in an age of comparative
refinement, for on each upper floor an archway leads into a latrine that overhangs
the outer face of the town wall. Rooms behind the curtains were built with the
long axis parallel thereto, but in the case of houses fitted end-on into the salients,
the side-walls prolong the flanks of the salients. On the north side the ruins are in
worse condition; here the rooms attached to the fortifications belonged to houses
that also extended inwards upon ground level with the upper floor beside the
perimeter. But there may not necessarily have been an upper floor beside the
entire length of the perimeter, since a one-storeyed frontage would have been tall
enough for defence wherever it overlooked a cliff. The roofs of the houses, at any
rate on the south and east (pl. XXIV, b, c), were gabled, and their eaves sat on a wide
off-set in the back of the fortification, lower in relation to the parapet than a normal
wall-walk; presumably the extra depth was required to leave space for the roofing
material, which is likely to have usually been thatch. A few stretches of the
parapet still bear square merlons, separated by somewhat narrower voids. Arrow-
slits in the curtains and salients were manned from the rooms, generally in the
upper floor, and on average gave a deeper arc of fire than at the Borghetto—where,
be it remembered, the slits were already twice as tall as at Paterno. A structural
difference contributed to this improvement; the limestone breaks into rough lumps,

9 Map Palombara-Sabina 161612.
10 There are, of course, many existing Italian
towns and villages which clearly originated with a
continuous ring of houses. The present town of
Palombara is an instance; the houses surround a
late medieval castle on the summit (pl. XXVII, a,
background).
which were laid undressed in thick mortar of remarkable hardness. Consequently the slits do not display the uniformity of their ashlar predecessors; they open from rubble niches—crude embrasures which could be built to whatever height and width might seem requisite to a particular outlook. Rubble voussoirs compose the round arch of a carefully blocked gateway in the inner face of a south-easterly curtain; some voussoirs at each end and both the jambs are hidden behind the applied side-walls of a later house, but the exposed portion of the arch covers a span of 2.75 m. It must therefore have belonged to a main gate, usable by loaded carts.11 No other gateway can readily be identified among the various breaches.

The founding of the town can scarcely have involved less than a kilometre of walling, averaging perhaps a metre thick and 6 m. high; this rough computation ignores the ruined churches and other buildings scattered over the enclosure, though presumably some must have been contemporary with the perimeter and its backing of houses. An operation of such magnitude called for exceptional resources, such as only the greatest families could command. Whoever the founder may have been, a Count of Palombara is mentioned as early as 1093.12 The title implies autonomy, conferred by ownership of estates, the tenants of which contributed their persons or their payments to a military force; the possession of a base not easily captured might compensate for small estates and the consequent weakness in striking power. The founder of this almost impregnable town would probably have become a Count by virtue of its foundation if he did not already enjoy the requisite autonomy—as to which we can form no idea, since we do not know whether the population formerly lived on the same hill without substantial defences, or scattered between several villages, or in some yet older Palombara elsewhere.

If we could accept the reference of 1093 as proof that the town of Old Palombara already existed within the fortifications now visible, the reference of 1140 might be taken as almost definitive evidence for the less advanced Borghetto.13 Since, moreover, the development seen by comparing Palombara with Paterno is likely to have required several generations, the terminus ante quem of 1093 would necessarily approximate to the actual year of foundation if Paterno Castle was built just before 1002, the ostensible terminus ante quem in its case. There is, though, no present obstacle to ascribing Paterno to, say, the middle of the tenth century, or even earlier; to put it considerably earlier might, however, be thought historically improbable. This hypothetical chronology for the three sites is manifestly too ill-founded to deserve trust; it may, too, be further suspect because a strangely long period would ensue before we reach the next monument in the archaeological sequence, the town-wall of Rieti, which is securely dated to the third quarter of the thirteenth century. That is a work of very different style, but due to extraneous influence; for that

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11 Another round arch of remarkable width, with roofing-tiles for voussoirs, spans the west gateway of Galeria, a town first mentioned in 1027, when it already contained two churches (S. Maria di Galeria 765564; Anna M. Respighi, Galeria, 1956).
12 E. Martinori, Lazio Tuscia, ii, 1936, p. 135.
13 A somewhat comparable site, called Pampinara or Piombinara, is identifiable with the Castrum Fluminariae which was already more than a century old in 1208, when a Pope gave it to his brother; the extent to which it was then rebuilt is uncertain. The towers project scarcely 1·60 m. (Tomasseti and Ferrari, Archivio della R. Società Romana di Storia Patria, xxviii, 1905, p. 146, with plan reproduced on a falsified scale; T. Ashby, The Roman Campagna in Classical Times, 1927, p. 52; PBSR, v, pl. XXXIV. 2; Ebb. ii, 2, pls. 153–4, iii, pl. 147.)
reason, no intervening period of development need be postulated. On the other hand, the evident superiority of the new style should have caused previous fortifications to be considered obsolete, and wherever resources permitted they may have been rebuilt, with the result that no monuments are recognisable from an interval\textsuperscript{14} that could well have lasted, as the documents suggest, slightly more than a hundred and fifty years, between Palombara and Rieti. If we ignore all the documents, we can even ascribe Paterno to as late as, say, 1150; I do not think that likely.

An extraordinary contrast is seen by comparing the walls of Palombara and of Rieti. The sites, it is true, are contrasted by nature, Rieti being on flat ground, Palombara on a hill difficult of access; at close quarters, however, some sectors of Palombara were subject to attack without hindrance, whereas at Rieti a ditch intervened. On balance, therefore, the natural disparity can be ignored for a stylistic comparison. It was in 1253 when a Pope authorised a great extension of the fortifications at Rieti. The new wall there (pls. XXV, XXVI, a) can be identified beyond dispute (because churches behind it are recorded to have stood outside the previous defences), and it is still preserved, usually to the full height, over a distance of 1700 m. (except for a couple of short breaks).\textsuperscript{15} The style is that characteristic of all Central and Northern Italy during the following two hundred years; for the previous couple of generations it had probably been confined to Lombardy, and it was, in fact, best suited to flat land. The basic elements, regardless of time and place, may be defined as follows. The towers, which are usually rectangular, always project considerably, and they rise higher than the curtains, which are almost invariably straight. The gate passages occupy virtually the entire width of a single tower. Most towers lack a back wall. Instead, if the upper floor (or floors) and the roof were wooden, they display a completely open gorge from top to ground; more often, especially if vaulting was used instead of wood, the side-walls were linked at the back by arches not less wide than the passage below. A walk runs continuously behind the curtains and through the towers; if the lower portion of a tower was not vaulted, an arch might be built to carry the walls across it.

At Rieti, most towers are rectangular but in some the frontage is rounded off (pl. XXV, a). Their dimensions are fairly uniform, except at the gates and the corners of the town; a typical rectangular tower measures 4.95 m. across the frontage and projects 3.05—enough, considering that a ditch outside reduced the need for flanking fire. The curtains could afford, for the same reason, to be abnormally low, but so also are the typical towers, and in their case the economy cannot have been justified; generally they rise only a little above the curtains. The tower at the N.W. corner, which is much the tallest, may be slightly later; its roof must have given the defenders their one opportunity for really long-range fire. Towers that slightly exceed the average height stand at the N.E. corner (pl. XXV, b) and above the east gate, the Porta d’Arce (pl. XXV, c), but the top of the north gate has been demolished. Each of these gateways opens through the outer face of a tower and is formed by a round arch, narrower and much lower than the

\textsuperscript{14} Some parts of the walls of Viterbo presumably belong to this period, and so, no doubt, do scraps elsewhere.

\textsuperscript{15} Palmegiani, \textit{op. cit.}; Ebh. iii, pl. 111, inaccurate early plan; Touring Club Italiano, \textit{Lazio}, 1953, p. 67, fairly reliable plan and external view.
vaulted passage behind. Only at the Porta d’Arce is the top of the passage vault still exposed as the floor of a room, the back of which, till recently, was closed by a wall containing a window of three round-arched lights divided by marble columns;¹⁸ now an empty arch, even wider than that below, supports the roof and parapet. All four sides of the tower are crowned with almost square merlons, much smaller than those on the curtains. The floor of the tower room lies approximately level with the bases of the merlons on the adjacent southward curtain; here remnants of steps can be seen, leading from the ground to the side-wall of the room. (Any such arrangement towards the north has been covered by the construction of a church beside the curtain.)

The back of the wall is generally concealed by houses and other buildings of comparatively recent times. Two towers remain completely exposed. On the east side, just south of the Porta d’Arce, the straight back (p. XXVI, a) of an externally rounded tower is walled below by masonry continuous with the inner face of the curtains, and the modern doorway at ground level seems to have replaced a wider arched entrance; the upper storey, however, is open at the back, except for an arch which must have been needed to support the inward parapet, now missing. The floor must lie about a metre lower than the merlons on the adjacent curtains, where the wall-walk runs close under the base of the merlons. So it does, too, on the N.E. corner (pl. XXV, b), where it steps down to cross a taller tower at mid-height, and met another stair which ascended from the ground. The upper half of the tower was built with and retains a completely open gorge; the lower, which is entered under a projecting arch that carried the walk, is vaulted soundly enough for a cannon to have been mounted, but only one port was inserted (facing south). The anomalous relation of parapet and wall-walk heights can scarcely be due to alteration. Its effect must have been that men could not safely stand upright on the curtains, even if shutters were hung between the merlons. Probably the defenders were massed upon the towers unless the enemy succeeded in crossing the ditch, when the low parapet on the curtains enabled them to aim straight downwards.

In many respects the enceinte of Rieti looks amateurish. The towers are spaced at uneven intervals, which can scarcely have been related to topographical or military requirements; all along the north side the ground slopes imperceptibly upwards from the town, but the towers in one portion are close together, in another far apart, for no apparent reason. Nor can any defensive advantage have been gained by rounding the frontage of certain towers rather than others; the shape may indeed have been used merely because it was the traditional means of evading the trouble of building corners. Perhaps the inconsistencies arose from a curtailment of the original plan, or from failure to complete a later scheme to make good its deficiencies. But the two worst drawbacks, the inadequate height given to the towers, and the excessive height of the curtain walks, must surely be attributed to incompetence, not poverty; if the total number of towers had been reduced, and some built taller, they would have given better service at no greater cost, provided the curtains, too, could be manned in safety.

¹⁸ Palmegiani, op. cit., photograph on p. 167.
That, in fact, was the method adopted in a pioneer work of the same style, though retaining some transitional features, the town-wall of Como, dated 1192. The earliest typical example of the style would—astonishingly—be Framlingham Castle in Suffolk, if the rebuilding in that manner has been rightly attributed to shortly after 1189. (Might it not have been undertaken after the successful siege of 1216?) A Lombard master-mason can be presumed to have worked at Framlingham, so assured is the treatment of details, then no less unfamiliar in England than the general scheme. In contrast, the bungling at Rieti, as late as 1253, implies local design, and strongly suggests that no good prototype (on even ground, of course), from which to learn, then existed within a comfortable distance. In fact, the oldest-known example of the style elsewhere in Central Italy is perhaps a gate-tower at Viterbo, the Porta Bove, dated 1255. At Monteriggioni, the oval wall of a Sienese castle, built in 1203, supports the open-gorge upper portions of towers, which are likely to have been added during the 1260’s, when Siena is recorded to have strengthened this frontier-post against Florence; it is significant that Dante found these towers most impressive, though to modern eyes they are poor things. The previous manner of Tuscan fortification can be seen at Massa Marittima in two successive walls; the first, of 1206, is an undistinguished work with rounded towers, like some at Rieti, and the second, though built partly by masons from Como, is nondescript apart from a squat main gateway of c. 1230.

On the foregoing argument, the western sector of Old Palombara should not be earlier than Rieti. No houses back the wall, the height of which generally exceeds that of the original sectors, while open-gorge towers rise slightly above the curtains (pls. XX, c, XXVII). The crude embrasures resemble those of the original sectors, and one opens through an oblong merlon at the inner corner of a tower, though other merlons seem to have been solid and approximately square. One distinctive curtain (pl. XXVII, a, to right) is as low as any original sector, and bears oblong merlons of superior masonry, each containing a short, straight arrow-slit without embrasure. The date throughout, though apparently later than that of Rieti, should fall within the next generation or two because of the absence of machicolation, the use of which became general in Italy early in the fourteenth century. In plan, however, the western sector conforms with the rest of Palombara; in particular, the towers project no further than the old house-filled salients, and just as variably. The external masonry, too, is similar to that elsewhere in the lower portions but tends to improve towards the top. The inward face consists of rubble in some place, of comparatively well-shaped blocks in others, which are largely, but not exclusively, parts that demanded special care, such as the terminations of the side-walks of an open-gorge tower. The anomalies of the whole sector

17 Enciclopedia Italiana, s.v. Como, photograph of main gate. I intend to write further about the walls of Como, Castelfranco Veneto (1199), Cittadella (1220), etc.
19 E. Martinori, Lazio Turrito, ii, p. 235, photograph.
20 Ebh. iii, pls. 117, 121; Touring Club Italiano, Attraverso l’Italia, vi, Toscana ii, p. 205, fig. 170.
21 Inf., xxxi, 40.
22 L. Petrucci, Massa Marittima, 1900; S. Galli da Modigliana and O. Comparini, Memorie storiche di Massa Marittima, 1871, especially i, plan at p. 16, ii, pl. VI, for wall of 1206 (omitted on Ebh. plan, iii, fig. 425).
Fig. 5.—Old Palombara: Sketch Plan of Inner Castle (R. J. C. Jamieson)
can scarcely be explained on the supposition that it was the latest to be completed and retains its original form, because the adoption of an obsolete plan would seem incomprehensible; besides, masonry of fair quality would not have been restricted to the one sector if its use had prevailed contemporaneously with that of rubble. The alternative explanation is that the sector has been reconstructed upon the original course, and in various portions incorporates more or less of the original wall above the substructure. In default of evidence to the contrary, we may surmise that a continuous row of houses had backed the wall, as elsewhere, and that the salients were converted into open-gorge towers by demolishing the rooms within and behind. A motive for destroying the houses can be suggested; inwards of this sector stands a ruined castle, obviously of later date than the foundation of the town, and its lord may have preferred not to leave his subjects where they could impede his access to the outer world.

By 1279 Palombara had come under the ownership of the Savelli. In that year, a member of the family, the Cardinal who afterwards became Pope Honorius IV, made a will in castro Palumbariae, in palatio arcis ejusdem castri; the castrum must be identified with the town enclosure, the arx with a castle inside. No doubt a palace or a castle of some sort had been built when the town was founded, and probably on the same site, that being the very summit of the hill. But, except for occasional patches (probably repairs) near the base, the existing structure looks of one build, and it may well have been standing in 1279. The sketch-plan (fig. 5) is based on measurements by tape alone, the angles being estimated by eye; internal walls are ignored unless they meet the external. Assuming the lost half of the north side to have run straight, the general outline would be trapeziform if abrupt corners had not been avoided at either end of the south side; its junction with the west side was effected by complex indentation (pl. XX, b), but towards the east apparently by a simple oblique outline, which, however, is not clear, since the wall has fallen. The collapse may have been caused by the thrust of an equally tall building within, the end of which, with a gable chase (pl. XXIV, a), is the only complete wall inside the enclosure; indeed, most of the central space appears to have been left clear. Evidence of alterations is conspicuous on the east side, behind and at a gateway 2.95 m. wide, which was narrowed by a wooden lintel (now lost) beneath a late relieving arch of tiles; structurally this is a flat arch, but it slants gently upwards from each side to a slight peak in the centre. At the south-east corner, brick voussoirs coign an arch round by intention, but misshapen, over the curved niche of a latrine, which is an integral part of the wall (pl. XXVI, b). This is the one noteworthy original detail, and of limited use for dating. Reliable pointers to the age of the castle may be found in the meticulous and ample outflanking of every section.

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\(^{22}\) Martinori, *op. cit.*, ii, p. 135. Another of the family possessions, Castel Savello, is thought to have been built mainly under their Popes of 1216–17 and 1285–87. It occupied the summit of a little hill outside Albano. Only a few scraps of masonry were visible in 1958, revetting low terraces; some, if not all, of the lost walls must also have been backed by earth to most of their height. The remains and the shape of the ground are compatible with a plan drawn when a great deal more could still be seen (E. Rocchi, *Le Fonti storiche dell’ Architettura Militare*, 1908, p. 154). It shows a palace, a church and rows of small buildings inside the enclosure, and hints that the perimeter (of some 500 m.) may have been treated in a manner stylistically intermediate between the enceinte and the castle of Old Palombara.
of the perimeter, the height and thickness of the wall, the absence of machicolation. The criteria taken in conjunction indicate a date shortly before 1279, when the castle at Palombara was already fit for a Cardinal’s residence, as this building must have been. Some measure of corroboration is obtainable from comparison with a smaller castle at San Giovenale, near Viterbo; there, the general design and details are, if anything, less advanced, while on historical grounds the building can be ascribed to the middle of the century or soon after.\textsuperscript{24}

By that time, foreign influence had begun to affect the neighbourhood of Rome. Its approach can first be observed in the huge tower which formed the main defence of Rocca Ianula, the castle below Monte Cassino;\textsuperscript{25} the situation, commanding the valley from a projecting foothill, gave the occupants power to control the best route between Central and Southern Italy. The bombardment of 1944 destroyed most of the tower, in spite of its massive construction, but left enough to confirm its German character, which has long been recognised. It was pentagonal, with one end rectangular and the other beaked towards the col, from which direction alone could attack be expected. The shape, position and structure are typical of German planning, and identify the tower as a \textit{Bergfried}, which by definition, should be a strongpoint scarcely inferior to a West European keep, but an integral part of an enceinte and sited at the point of greatest danger. The current attribution to the Hohenstaufen need not be questioned. Henry VI (1190–97) is probably the earliest emperor who could have built such a work; the conventionality of the scheme would seem incompatible with Frederick II after 1230 (when he and the Pope made their peace at San Germano, the modern Cassino), but in his youth he might have approved it.

The castle at Prato\textsuperscript{26} of the 1240’s demonstrated the maturing ideas of Frederick II to Tuscany, and they may also have penetrated to Rome from South Italy. An influence eventually more potent was exercised by the French style, introduced under Charles of Anjou in the castles of Lucera, 1269–75, and Naples, from 1279 onwards. The imitations in Central Italy are usually ascribed to the following century but some might belong to the thirteenth.

Up to this period, a vast number of strongholds existed in the neighbourhood of Rome, but most of them were villages with a minimum of fortification. Only a few major castles and towns were entirely enclosed by thick and lofty walls, and I am inclined to think that, apart from those already mentioned, only small portions of any now remaining can plausibly be dated before 1300. A castle at Bracciano is recorded as early as 1234, and inside its gigantic successor of c. 1470 the outlines have been recognised of a little square fortress, boldly outflanked at the corners by rectangular towers, and of an isolated square tower within.\textsuperscript{27} This tower was larger and may well have served as a keep, but could also have been older than the stone wall of the enclosure, which recalls Prato and S. Giovenale. A similar question arises with regard to Castel S. Pietro, above Palestrina. The ground

\textsuperscript{24} \textit{Etruscan Culture, Land and People}, 1962, p. 329, for a preliminary study by B. Thordeman, who has since found additional evidence which will, I understand, enable him to give a more precise dating.

\textsuperscript{25} Ebh. ii. 2, pls. 172–173.

\textsuperscript{26} Ebh. ii. 2, fig. 455, iii, pls. 97–99.

\textsuperscript{27} L. Borsari, \textit{Il Castello di Bracciano}, 1895.
Fig. 6.—Torre Fosso delle Sorcelle. East and North Elevations and E.-W. Section of Tower (S. R. Bellame)
floor of a tower is preserved within, towards the back, where a cliff prevented attack from outside the enclosure; the tower may therefore be classed as a keep. But on the clear evidence of the masonry it is considerably earlier than the open-gorge gate-tower, which was one of the few portions of the enceinte to escape drastic alteration about 1450. The practice of building a keep, for a safe residence, must have continued, for there is a huge example (pl. XXVIII, a) inside the castle at Cerveteri, where the Venturini established their seat in 1290. Probably the brick keep was their first work. But soon they must also have built the lofty corner tower of stone where the enceintes of the town and castle met. A brick corner of the castle enceinte (pl. XXVIII, a), tightly enclosing the keep, may be dated later in the fourteenth century; the side towards the town consists of stone, and was reconstructed in the following century. The sequence of alterations is unusually clear at Cerveteri, owing to the use of different types of masonry and brick; for example, the top of the keep is immediately distinguishable as an addition, which exemplifies a general tendency towards greater height in residential buildings.

Of all the sites at which stone was used exclusively, Corneto-Tarquinia is both the most important and the most puzzling. The extensive castle, founded by Countess Matilda (c. 1070?), has undergone so many alterations that the original enceinte cannot be visualised. But plainly the isolated internal tower, which stands near a church begun in 1121 and must itself belong to roughly the same period, was not a keep but, as its combination of great height and narrow girth declares, a look-out. Among the subsequent additions, the magnificent north gateway (pl. XXVIII, b) can plausibly be ascribed to about the third quarter of the thirteenth century, while the impressive round tower at the south-east corner appears a relatively early example of the French style introduced through the kingdom of Naples; corbels for machicolation project below the parapet.

In an age when works of such magnitude were thought requisite, the feeble rustic strongholds that had multiplied during the past four or five centuries could no longer be expected to withstand attack; they may still have been serviceable against raiders. At a few, which occupied positions exceptionally secure by nature, the defences were brought up to date; that was done at Castellaccio di Versano, a steep-sided promontory below Mt. Soracte, and at Castel di Foiano, which changed owners in 1333, and where, as at the Fosso delle Sorcelle (fig. 6, 7), a fifteenth-century gunport formed the last improvement. But the majority of the fortified villages had become hopelessly obsolete; if a site was inconvenient for the occupants' daily work, they deserted it, but usually the place degenerated into a farm. The rural population came to rely for protection on the lords of new or renovated castles, which tended to be larger and taller as well as stronger than those of the early Middle Ages, and were comparatively few in number. Towns sprang up in their shadow as the villages dwindled or were abandoned.

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28 Ebh. iii, pl. 149, centre of left lower photograph.
29 Tom. ii, p. 532, figs. 18–19.
30 Ebh. ii, 2, figs. 437, 480–486.
31 Stimmigliano 952816. The ruins are in very poor condition, and partially overgrown. The ditch is abnormally wide and deep.
32 Civita Castellana 874817; Tom. iii, p. 361. A portcullis groove, in the arched gateway of a small room, is probably the earliest preserved in the district.
33 PBSS, xxv, 1957, p. 176.
34 The condition of each rural community, from time to time, may be inferred from the salt-tax records, and correlated, more or less hesitantly, with the maintenance or desuetude of fortifications (cf. Tom. i, pp. 156–157).
We may assume that no fortified villages can have been founded later than the thirteenth century, and scarcely any after the middle of it, when their obsolescence was becoming manifest. On historical grounds, the earliest may go back to the tenth or even the ninth century, and a majority to the eleventh, but the completion of the fortifications now visible should probably be ascribed, in the main, to the twelfth; the meagre and inconclusive evidence leads to that hypothesis. The village defences conform closely to pattern, at any rate on the tufa plateau north of Rome. Every stream there cuts a ravine, and where two join, the promontory between them could be made reasonably defensible simply by cutting a ditch between one cliff and the other, and erecting some sort of barrier along the inward scarp. Presumably the ditch was crossed by a wooden bridge, a section of which might

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Fig. 7.—Torre Fosso Delle Sorcelle: Plans and South Elevation of Tower, Ditch and Approaches. (S. R. Ballance)

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55 Material for a comparative study of the rural fortresses has, I understand, been collected by H. Stiesdal, who has already published examples after partial excavation (Analecta Romana Instituti Danici, ii, 1962, p. 63 ff.); others have been and are being included in the survey reports of PBR.
have been either withdrawn or lifted when occasion demanded. No example of a gateway is known, nor, as a rule, can the precise situation of the entrance be recognised. Even so, there can be no doubt that the sole prominent feature at any of these settlements, a tower, was never placed adjoining the entrance but always several metres distant to one side or the other, and often slightly to the rear, so that defenders could shoot at a slant and did not have to lean over the parapet. Rarely did a tower stand within a little enclosure of its own, a castle inside the village (as at Morolo, Appendix II). At a number of sites no remains of a wall can be seen even behind the ditch, and rarely is a wall traceable all round the promontory; a palisade may often have been used instead, and there is no reason to think it would have been any lower, so negligible does the height of the average wall seem to have been. A wall of exceptional strength is found, significantly, in a different type of landscape near Prima Porta.\textsuperscript{36} As usual, the site occupies a promontory, and is cut off by a ditch, but only one other side stands above a steep hollow, the rest being approachable up grassy slopes. No masonry can be seen above the hollow; the wall begins, with a buttress, where the hollow meets the gentle slope, along which the masonry is preserved for a length of perhaps 200 m., though seldom to a height of more than a few courses. Two rectangular salients resemble those of the Borghetto; the better preserved could have held no more than three or four men, and the projection is so slight that they would have been unable to command the face of the curtains to either side. A short arrow-slit remains in one curtain.

The village towers (figs. 6, 7, 9, 10; pls. XXIX, XXXI, b, XXXII, a) resemble many built contemporaneously on the hills of Tuscany and Northern Italy and in the German-speaking regions of the Alps.\textsuperscript{37} Every known example near Rome is rectangular, and seldom are they far from square; the sides commonly measure between 4 and 8 m. The larger towers are comparable with those built by noble families in the Italian cities, except as regards height; the interior provided, as a rule, only two superimposed rooms. In them presumably lived the landlord or his representative; the roof also must have been in regular use as a look-out. In war, the tower performed the two functions of a Bergfried: it would take a major part in resisting a siege, and in the event of failure, could serve as a last refuge for some dozens of the inhabitants. Whereas every other part of the defences could be manned only at ground level, the roof of the tower provided a fighting platform, surrounded by a parapet with merlons. Slits below must have been intended more to light the rooms than to enable archers to give a very limited measure of support; on occasion, indeed, the embrasures took a shape that wantonly restricted the arc of fire (Appendix II). In these simple towers, if the floors and roof were wooden, the walls might be offset to receive them, or the beams might simply be inset in the masonry; sometimes each corner was buttressed internally, either all the way up, or above an offset as at Cornazzano (pl. XXIX), which is recorded as a castrum in 1137.\textsuperscript{38}

\textsuperscript{36} Casale Marcigliana 909536.\textsuperscript{37} E. Poeschel, Das Burgenbuch von Graubunden, 1929, includes all the towers in the Grisons.\textsuperscript{38} S. Maria di Galeria 754550; Tom. iii, p. 48. The tower stands unusually far behind the ditch, and could be entered at man-height above the ground, both on that side and from the promontory; there may, therefore, have been an inner enclosing wall around the tower, as at Castel Morolo (Appendix II). Much stone must have been taken recently to build a villa, outside the ditch, and the causeway across it.
No typological difference can be seen between such village towers and many of
the towers that stood isolated in the countryside or within a weak little enclosure
of their own; some of these, however, were much taller. Their interior, no doubt,
was normally put to residential use, and in case of emergency could receive depen-
dents into comparative safety, but otherwise the functions did not resemble those of
a village tower, and varied. An examination of the purposes served was made by
Tomassetti, combining documentary and archaeological evidence, some of which
dates from the Renaissance. He distinguished between:

Towers for the jurisdiction:

of a bishop, who might so demarcate the boundary of his territory;
of an abbey, where, however, the belfry could meet the need;
of the Holy See;
of the Capitol, i.e. the City of Rome;
of a baron, whose successors might eventually build a castle around the tower.

Fiscal towers
Signal towers for transmitting warnings.
Such towers were not originally enclosed, but a wall might be added around
one upon conversion to a baronial fortress. A chain of towers gave notice
of sea-borne raiders, at least in Renaissance times.

Watch towers
Towers at water-mills
Towers to prohibit access to a valley.

The validity of the last category seems very dubious, at any rate for medieval times,
when no tower yet known could have effectively controlled the entrance to a valley.
Towers in the depth of a valley are more likely to have been built for jurisdiction
(and, incidentally, of course, to safeguard the local people), or, if a road passed
near, to collect tolls. Only the latter motive can account for the Torraccia nel
Bosco, a ditched enclosure that contained at least one other building besides the
tower, in a depression through which the Via Cassia runs.

To some extent Tomassetti’s categories overlap. Towers for jurisdiction were,
as he remarked, also used for enforcing the payment of tithes and tolls, though a
medieval example of a specifically fiscal tower may be recognised in the isolated
Torre dei Pastori, which stands roughly 7 m. away from an abandoned piece of the
Via Flaminia; the groined vault of the roof is proof of a fairly advanced date.
Towers of any category could presumably be utilised for watch or signal purposes,
which, in any case, must often have been inseparable.

There is, however, an obvious example of a tower built specifically for signalling.
The Tor Maggiore is estimated to be about 30 m. high, though only 7-90 square,
and the position on an open plain (near Pomezia railway station) must have given
an incomparable view from the roof; even from the ground the Alban Hills are in

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39 The round Torre di Lazzaroni, near the Ponte Milvio, has been explained as a thirteenth-century
watch-tower (Tom. iii, p. 239, fig. 44).
40 Material collated from Tom. i, pp. 124, 184–185.
41 Campagnano di Roma 830634.
42 Stimigliano 904852.
43 Pomezia 975192; Tom. ii, p. 441, fig. 103.
sight. No record prior to 1334 has been found alluding to this conspicuous monument, and its inclusion among works of the early middle ages cannot really be justified by argument. But the style and scale are compatible with the thirteenth century; the Torre delle Milizie at Rome, over 12 m. square, was probably begun about 1210, though it did not reach its present colossal height till 1294 (and in 1330 received an additional stage, since demolished). Internally the Tor Maggiore is perhaps unique in that some floor-beams remain in place as well as two vaults and in containing nine storeys, but the builders adhered to the traditional methods used in towers of normal size. A surrounding enclosure (about 30 m. square), though later, is certainly medieval.

The vault that covers the Tor Maggiore contains a square opening for a trap-door to the roof, and a similar opening may have been left in the lower vault, though the room above it could also have been reached by an external ladder. So much of the lower vault has fallen that the inaccessible upper levels can be observed from the ground floor; the photograph (pl. XXX) was taken with the camera placed on the ground, pointing at the gap, the rough edge of which hides almost the whole of the storey immediately over the lower vault. Above that storey, broken floor-beams project from an off-set, upon which rests a corner buttress, as at Cornazzano (pl. XXIX, b). Every corner of the tower is so strengthened, and the buttresses run up to support the groinings of the roof-vault, as was essential, because the wall-thickness at that height is much less than the 1.34 m. at the base. As the photograph shows, two more off-sets higher up still support complete beams, one of which, for the top floor, is crossed by another beam at right angles; midway between these two off-sets is a floor-level marked by broken beams protruding from holes in the walls. Similar holes occur at two more levels between the middle and lowest off-sets, and must also have carried floors, thereby making the height of each storey roughly equal. Between the lower vault and the ground is yet another row of holes, which probably held the flooring of a loft; some light enters through slits above the holes. There are no slits below but the doorway at ground level, 1.78 m. wide, might have allowed sufficient light to enter if the lowest room was used only for storage, as is likely; each of its other three walls is furnished with a round-headed niche, 60 cm. high by 40 cm. wide, set 1.80 from the ground. The storeys above the lower vault were lit partly by slits but mainly by square windows, constructed with marble slabs for lintels and sometimes for sills, as was common practice wherever ancient sites could be pillaged.

In many instances of normal height, a tower with a vaulted roof is likewise floored with wood on the intermediate storey (or storeys) but vaulted again lower down. There can have been no structural reason for building the lower vault; in fact, the internal corner buttresses must have been useful partly because their weight reduced its outward thrust. But the advantage of the lower vault is obvious, for towers so equipped could safely be entered from the ground, whereas in the vaultless towers there is usually only one doorway, opening on the second floor and therefore inaccessible without a ladder. But with the greater security of a fireproof and almost indestructible barrier between the upper levels of the tower and the

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44 E. Amadei, Le Torri di Roma, 1932, p. 25, pls. VI, VII.
ground floor, the latter could be used for animals or heavy stores; if an enemy forced his way in, he could not easily penetrate higher. This explanation could equally apply to the use of the same expedient in the Frankish towers of Greece, which must be later than 1205, and the tower-houses of the fourteenth century in north-east Scotland. Whether similar social conditions independently produced the same solution of the problem, or some landowner—in Scotland, perhaps a bishop—introduced the idea on his return from Italy, cannot be decided on the present evidence.

Long before guns came into use, improved methods of warfare would have made the Tor Maggiore indefensible, if an outer wall had not been added to keep the enemy at a distance. Isolated towers of normal height must have become militarily ineffectual earlier than the fortified villages; so many, however, occupy sites of no natural strength that they can only have been built against no worse adversaries than raiders or discontented peasants. A tower of exceptionally careful and handsome construction, La Bottaccia, was little more than burglar-proof.

The towers that stood, from the first, within a small enceinte of their own, depended on it for protection as did a tower within a fortified village, and the enceinte can seldom have remained effective into the fourteenth century. Even in the castles of the latter Middle Ages, it is rare to find separate towers of great height; there is a semi-detached one inside Passerano Castle, but in a position of comparative safety, so that it may be classed as a look-out. That need was usually met by extra height in part of a building. The device can be seen in section at an isolated ruin called the Chiesaccia, off the Via Ardeatina (pl. XXXI, a). There remains standing only one end of a hall with two vaulted aisles, upon one of which rises a tower, to a height of perhaps 15 m. In 1259 the estate to which the site probably belonged was transferred from private ownership to the Templars, and they may have built the Chiesaccia soon after. But other country houses of similar shape must be later than 1300.

A summing-up may best, perhaps, be given in reverse chronological order. Before the end of the thirteenth century, small fortifications appear to have become

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46 There are, to my mind, insuperable objections to the current derivation of the Scottish tower-house, whether from the Anglo-Norman keep or from the previous local type of residence, a spreading two-storied house like an English manor (S. Crudden, The Scottish Castle, pp. 97, 110, etc.). The most relevant tower-house, Hallforest, is presumed to date from just after 1309, or even earlier (W. Douglas Simpson, Earlom of Mar, p. 31, fig. 12, and Province of Mar, pl. 74; Sir A. Leith-Hay, Castles of Aberdeenshire, drawing at p. 14). Huge corbels supported a wooden floor midway between the ground and the lower vault, above which was a tall room up to near the spring of the roofing vault, at which level is a set of holes, either for a loft dependent on borrowed light, or for potlugs. In most tower-houses the lower vault covers the ground floor alone, and there are two or more wooden floors above it.

47 Tom. iii, p. 519, fig. 112; Ebbh. ii. 2, figs. 510–512.

48 Cecchignola 911296; Tom. ii, p. 433, fig. 98; E. Martinori, Lazio Turrito, i, 1982, p. 184, drawing. In the corner beneath the tower is a latrine recess, still covered by a wooden beam; the shaft discharged obliquely through the wall. Cf. a double privy found in a tower by Stiesdal (Annesta Romana Instituti Danici, ii, 1962, pp. 74–75).

49 M. R. Prete and M. Fondi, La Casa Rurale nel Lazio settentrionale e nell’Agro Romano, pls. V, IX.
obsolete; the building of fair-sized castles continued, but the principles of design were being revolutionised by acquaintance with foreign styles. As early as the middle of the century North Italian influence had already caused an even more drastic change, especially in town-walls. Till then, progress must have been slow, in a style invented and developed in the neighbourhood of Rome, and effective only against the simple methods of warfare prevalent there in the early middle ages; the style is seen at an extremely primitive stage in Paterno Castle, the walls of which may have been standing by 1002, when a baronial residence is recorded, and, if so, may reasonably be presumed to have been built during the preceding hundred years. On that supposition, stone fortifications are not likely to have become numerous till, at earliest, the tenth century, or, more probably, the eleventh, while the smaller examples may date predominantly from the twelfth; even then, some of the villages retained the use of a palisade, which, in conjunction with a ditch, had originally formed their universal means of defence.

A. W. LAWRENCE

APPENDIX I: Castel Paterno
(Figs. 1–3, 8; pls. XX, a, XXI)
(Map 143.I Civita Castellana 872830; Tomassetti, iii, 359)

The site (fig. 8) occupies the end of a ridge between two ravines, the Fosso della Mola and the Fosso di Stabia, at their junction with the flat-bottomed valley of the river Treia; the streams have intersected the tufo to a depth of 100 m. The ravines are largely precipitous, and for the rest so overgrown with trees, bushes and briars as to be almost impenetrable except on a made path, but the northward descent to the Treia valley is comparatively easy, down slopes less densely wooded and interrupted only by an occasional low cliff of harder rock. This route is practicable for horses; it meets the river-valley 2 km. south of Cività Castellana. The only feasible cart-track runs along the ridge south-eastward, towards the Via Flaminia, and carried much traffic in the past, to judge from the cutting that has been worn through a rise, almost a kilometre distant from the site. The track now begins inside the castle, crossing the ditch by a causeway which must have been formed by dumping material from the ruins when the ground was cleared for farming. While the castle remained a fortress, there must have been a bridge over the ditch.

Two natural gullies, draining respectively eastward to the Stabia and westward to the confluence of the Mola and the Treia, seem almost to have isolated the end of the ridge before they were actually connected by the ditch. The sides of the eastern gully must then have been straightened so that its width was increased throughout but the depth only in the upper portions; the completed ditch shelves gradually towards a steep-sided narrow valley, which expands lower down into fields before reaching the lip of the Fosso di Stabia. The east wall of both castle and town overlooks this valley. The south wall of the castle ran straight along the rim of the ditch for the whole length of the eastward sector and a little beyond the watershed, where the ditch must be purely artificial. The westward gully must
have begun approximately where the castle ends, and soon expanded to a greater width than the eastern, becoming also shallower. It was not so drastically reshaped, because it protected a less important, now entirely empty, area which may be regarded either as an appanage of the castle or as part of the town. No attempt was made to cut the inward scarp nearly perpendicular to its full depth, as it is beneath the castle; the main obstacle to climbing is the exposed edge of a hard rock-layer, just below the rim. A palisade must have been set on top.

![Map of Castel Paterno: Site and Castle](image)

**Fig. 8.—Castel Paterno: Site and Castle**

The horizontal bedding of the hard layer has resulted in flat ground (now cultivated) behind the entire ditch; the castle extends along two-thirds of the length and across roughly half the width of this open space. The western border, beginning at the mouth of the ditch, is formed by the broken edge of the hard layer, a mere tumble of stones on the verge of the long descent towards the Treia; here the undergrowth is so dense that it might conceal remnants of masonry, but a continuation of the palisade seems more plausible than a wall. On the north, erosion of softer underlying rock has created another plateau, separated from that above by a barely perceptible descent at the western end, but the difference in level becomes steadily greater towards the east, till eventually quite a steep bank is formed.

The lower plateau is the more extensive, and gave ample space for the vanished town. Except towards the upper plateau, it was defensible by nature, the rim being composed alternatively of low cliffs and of slopes at any rate steep enough to impede mass attack. There certainly was no wall on most parts, and on some not even a palisade would have been needed. A wall ran from a cliff on the south-east to that on which the castle stands, so as barely to overlap the slope between the two plateaux—which there reaches the maximum height, width and gradient. One end of the wall was applied against the north-east corner of the castle, obviously at
EARLY MEDIEVAL FORTIFICATIONS NEAR ROME

a later date, and a gateway at the lower end could not be much older than 1100; indeed its imposing external and (taller) rear arch, both of which are round, seem more appropriate to the twelfth century. Their spans measure respectively 2·15 m. and (owing to two set-backs of equal width) 2·32 m.; the external arch is only 0·28 m. thick, whereas the inner vault runs back 1·05 m. The voussoirs are thinner than the other blocks, and a pair meets at the centre of each arch. Just below the spring of the rear arch is a pair of square holes, as though a large block has fallen from precisely the same level in each jamb. The position, beside the outer arch, might suggest that a wooden lintel had been inset but for the fact that half its thickness would have overhung the centre of the arch. Separate blocks of stone or wood must therefore have been inset; probably they either held the door-posts or (like stone examples, some in Germany) contained hollows in which the pivots of a double door revolved. The intrados of the rear arch appears to stand more than 4 m. above the threshold; the external arch springs at a (measured) height of 2·05. The rock threshold has become deeply worn and cracked. The ground beneath is encumbered with fallen blocks and refuse but nowhere reaches to within a metre of the threshold level, nor drops 2 m. below it. Originally there must have been a gangway or bridge here, and an isolated lump of rock, though now shapeless, may have given it intermediate support. The gate opens slightly north of east (73°); a path may be assumed to have led through the fields and then forked, one branch going up to the cart-track on the ridge, the other down into the Fosso di Stabia.

The masonry of the wall is regular only at the gateway, and generally consists of blocks and chips of varying size; nowhere does it resemble that of the castle. The steepest part of the course slants down the hill-side overlooking the valley, and the likelihood of slipping probably induced the original builders to take the precaution of dividing the work into short independent stretches. The smooth ends of two such are exposed in a gap, which is too wide for a gateway and has presumably been caused by the collapse of a whole section. One of the walls there is thicker than the other, and with reason, for it descended so sharply as partly to revet the hillside. Lower down, a ledge in the hillside is revetted and safeguarded by a parapet. The path along it leads to a tunnel, the mouth of which is slotted for a door, and so down to a large cave, the only habitable spot remaining at Paterno. It is equipped with a rock-cut bed, a window through the cliff at the side, and a smoke-hole through the roof. Outside the tunnel there is a shallow curved recess off the inward side of the path, where firewood or fodder could have been stored in shelter.

Since the structure of the castle is not fully described in the text, I add some further information. The tower on the south-east, which probably was added during the thirteenth century, seems the only late piece of work, apart from an obvious thickening to the south wall; otherwise the enceinte is of one style and must have been built in one programme of work. The outer and inner faces of the wall are composed of tufa blocks in courses 31½ cm. high, measured between the centres of the thin mortar joints; the fill consists of tufa rubble and abundant mortar. The entire north side, with its salients, is well preserved except at the eastern extremity, where enough of the base remains to prove that it was not bonded into the town-wall, but the junction with the east wall has perished. The east wall is
likely to have been no more than a parapet, overlooking the sheer drop to the valley; the base of it is preserved from just short of this corner to near the south-east corner, where two stumps of masonry, several metres high, represent the sides of a tower. An old photograph reproduced by Tomasetti (iii, 360, fig. 75) shows it more or less complete. The slanting face of an embrasure remains, high up, and apparently the gap is due to the enlargement of a window, to which must have belonged the scrap of marble column found on the slope far below. The shaft was poorly rounded, measuring 17–19 cm. in diameter; the length preserved is 19 cm.

The eastern half of the south wall remains standing to a height of several metres; the top is concealed by ivy; the apparent square merlons of Tomasetti’s photograph could, if genuine, have been manned from the roofs of buildings placed against the wall. On one stretch the wall-thickness has been doubled, to near the top, by the application of larger blocks, such as compose the town gateway; this repair has been cut short by a gap a couple of metres wide—perhaps an enlarged window—beneath a few courses of the original work alone. The western half of the wall has fallen into the ditch, and there are no traces of the gateway which must have commanded the bridge.

Inwards from the present causeway across the ditch is an isolated mound, perhaps 4 m. high, covered with trees and undergrowth. To some extent it must be composed of rubbish cleared by the farmers who have cultivated the interior of the castle during the past five centuries or more, but in the western edge may be seen the outer face of a rubble wall, upon a fairly well-constructed footing. The length exposed is less than 2 m., the height less than a metre. The alignment, towards the west re-entrant of the castle’s north wall, is askew to every part of the enceinte. No comparable masonry can be seen at Paterno but the fact need not indicate a difference in date, since peculiar treatment may be expected at the base of a tall building. The proximity of the ditch suggests a tower, from the roof of which a lookout could be kept on the ridge track, and fire be directed, if necessary, across or into the ditch.

APPENDIX II: CASTEL MOROLO (‘TORRE BUSSON’)
(Figs. 9, 10; pls. XXXI, b, XXXII)

One of the more remarkable examples of a fortified village containing a castle, Morolo is probably unique in that the medieval buildings were afterwards incorporated in a Renaissance palazzo. A brief description of the site, with a sketch plan and photograph, has been published by H. Stiesdal in his report of excavations there (Analecta Romana Instituti Danici, ii, 1962, p. 88). The name ‘Torre Busson’ on the map (Rignano 898749) seems to have originated through a cartographer’s error for the ‘Tarabusson’ current in Tomasetti’s time (iii, p. 352) : cf. the ‘Fontana Tarabussola’ marked close by.

A place called Mauroro belonged in 996 to the monastery of S. Alessio, as did the castrum Morori in 1217 and castrum Morolum in 1252. Before 1279, the Savelli obtained possession of the castle at Rignano and all the surrounding district, and
Fig. 9.—Castel Morolo (Torre Busson). (R. J. C. Jamieson)
may soon have decided to reduce the number of castles which had been built on the previous individual estates. In 1449, when Morolo is next mentioned (as far as our present documentary knowledge goes), its status had lapsed into that of a farm (casale). Several private owners are recorded from that year to 1613. In 1565, when money was raised for building coastal defences, Morolo contributed a larger amount that any other place in the Campagna (Tom., i, pp. 180–181).

The site of the fortress is a plateau, shaped like a blunted triangle, which rises steeply (to 204 m.) from a small valley (at 176 m.) except on the east, where it is attached to a slightly lower ridge. Upon this ridge, at a distance of 75 m. from the fortress, Stiesdal excavated a cemetery around the ruin of a chapel. The scanty remains of some building stand upon the east end of the same ridge, above a sunken track (still in use) which runs more or less north and south; a wide slope beyond leads up eastwards to the general level of the surrounding country. A disused road-cutting leads through the hill on the east (ht. 232 m.), heading south-east towards the nearest portion of the Via Flaminia. Tomassetti refers to a piece of a Roman road (which he wrongly assumed to be an older Flaminia) heading for Stabia-Faleria, at a spot called Valle Castagna, and states that some paving blocks lay scattered in the neighbouring fields.

The layer of hard rock that composes the fortified plateau is exposed as an escarpment, a few metres high, all round except at the middle of the east side, where the ground slopes to the ridge. Shelters have been cut into the cliff; they are shown in Tomassetti’s photograph (iii, p. 354, fig. 71). At the south-east corner a two-storeyed house seems to have been partly rock-cut, partly free-standing, on each level. At the back of one shelter, on the south-west segment of the cliff, a rock projection conceals the end of a tunnel which leads to a large artificial cave on the north edge of the hill; there the mouth is screened by fallen rocks, which now allow an easy climb to the plateau rim, some 2 m. above the roof. The draught through the tunnel could have been controlled to the benefit of human and animal occupants, but another purpose of this (so far as I know) unparalleled excavation was probably to enable parties to leave or enter the fortress with less danger in times of trouble; a ladder would have been needed for communication with the plateau, at any rate on the south.

The natural defence provided by the escarpment was supplemented by a wall built along the rim of the plateau, at any rate in some places, where, however, the remaining scraps are scarcely describable; otherwise the fortifications were confined to a tower in the north-east corner and its surrounding courtyard. The enclosing wall of the courtyard is preserved only in one stretch, parallel with the west side of the tower; on the north and east its course probably ran more or less parallel with the tower, but later builders have left no apparent vestiges of the medieval work. These two sides of the tower, were in fact, enveloped in a Renaissance palazzo, the east end of which overlapped the tower in both directions. Northwards it extended down a steep slope, which cannot have been included within the medieval limits, except perhaps as an outwork; otherwise the battered outer wall of the rooms stands upon a shelf of rock and therefore should correspond, although thicker, with the hypothetical east curtain. Towards the south end, however, the fortification must have bent inwards near the end of the palazzo and of the shelf on which
it stood, and so have linked up with the south-eastern re-emergence of the escarpment. In this gap, where no masonry can now be seen, the entrance must have been situated. The wall must have avoided a rock, with a slanting outer face, which is exposed a few metres beyond the end of the palazzo and on much the same alignment. Another significant feature, visible in 1958 (though not in 1960) at the south end of the gap, was a piece of concrete floor on roughly the same level as the top of that rock; it presumably belonged to a room, backed against the wall, and lay so near the beginning of the escarpment that there would barely have been space for a gateway in between, where the slope is peculiarly easy. But any entrance here must have been post-medieval because the distance from the tower is too great; the original gateway would unquestionably have been placed close enough for the defenders on the roof to command it with makeshift weapons as well as arrows.

![Diagram](image-url)

**Fig. 10.**—Castel Morolo (Torre Busson) : Section A–A. (R. J. C. Jamieson)

Probably the south wall of the courtyard returned to a corner not far from the end of the palazzo, and there enclosed the sole outer gateway of the fortress. An inner gateway, from the courtyard to the remainder of the plateau, appears to be traceable in the west curtain, opposite the south-west corner of the tower, and the route between the two gates would therefore have been well commanded.
The tower, which presumably existed in 1217, is built of two ashlar faces and a fill of rubble and mortar; the faces consist of large tufa blocks set in mortar; each course averaged 31½ cm. in height, measured between the middle of the joints. The tufa is generally buff in colour; some courses contain runs of darker blocks. Most of the parapet has fallen and no battlements remain; the present height must be about 17 m. The upper half of the tower, from the south-east corner to beyond the centre of the east side, has been reconstructed to a lesser thickness in poor masonry, composed largely of re-used blocks; the inner face of the late wall is set slightly outwards from the older work. The reconstruction was probably undertaken in medieval times, though not till the tower had lost its military value.

The tower contains three storeys, above a base which appears to be solid. A doorway in the west side is the original entrance (pls. XXXI, b, XXXII, a). In later times it was approached laterally by a steep stair, pegged into the wall at the back and front of each step; the stair ascended northwards towards a balcony landing, which may possibly have been original, for it was carried on beams built in on either side of the doorway. The roof of the passage slopes upward, and the blocks on the inner wall-face are cut back to obtain more head-room. This feature was probably a very late improvement; it is duplicated above an obviously inserted passage through the east wall, communicating with the upper floor of the adjoining Renaissance building (pl. XXXII, b). The threshold of this second outer doorway had therefore to be placed at a lower level, and accordingly steps rose in the thickness of the wall and are cut into the floor within; the roof of the passage slopes up steeply, in addition to being cut back on the inner face. There were no other apertures in this lowest storey. Externally (pl. XXXI, b), a chase across the south side marks the position of a stair, which was approached horizontally from the landing outside the west doorway by a gangway pegged into the wall. Above, outside the second storey, a roof-chase slants up eastwards; it seems unrelated to the Renaissance buildings and is probably a relic of the late medieval casale.

Windows lit the second and third storeys, invariably at the centre of the wall. They are uniform in shape; the sides converge only slightly till they reach the external facing blocks, where they turn inwards almost at a right angle to form a slit, and the roofing steps up simultaneously. Seen from outside, the windows cannot be distinguished from arrow-slits, and inside they begin like the primitive embrasures of the Roman countryside, but the sudden contraction prevented use by archers. On the second storey there is a complete window on the south, while one on the east was blocked externally when the wall was reconstructed. On the third storey windows are preserved on three sides, and a gap on the east is almost certainly due to the enlargement of a fourth window.

The groined vault of the tower roof seems original, but other groined vaults over the first and second storeys were evidently inserted in replacement of wooden floors. The middle of every vault has fallen, but in the lowest the edge of a square trap is partly preserved; ladders must have been used. The groins of the vaults rise steeply and seem to have been approximately semi-circular in curvature; they were so heavily plastered as to produce sharp arrises.

West of the tower, one remaining stretch of the medieval enclosing wall stands upon an outcrop of rock (pl. XXXI, b, XXXII, a). The base is built of rubble
throughout its thickness but the wall above consists of two faces of coursed ashlar, laid in mortar, and a fill of rubble and mortar. The inner face consists of fair-sized blocks, all the way up. The outer face is of extraordinarily varied masonry. Immediately above the rubble base is a thin course, supporting a tall course, above which are four more tall courses; every tall course is composed of blocks like those of the tower. Next come eight courses of little tufa ‘bricks’ (containing a blocked slit, and putlog holes level with its top), then another tall course, and more ‘bricks’ for the remaining height. To all appearance, the whole face was built at the same time, of masonry diversified partly for decorative motives, partly to enable the slits to be made with less trouble.

The medieval curtain was later doubled in thickness by a backing in extremely poor rubble; both walls are now broken at the same level, leaving no indication of the original height nor of how the top was formed. The medieval wall alone would not have been thick enough to walk upon, and must therefore have been manned from the roof of an adjoining building or from a wooden gallery, cantilevered or raised upon scaffolding; there is, in fact, a row of square holes about a metre below the present top. On the south the medieval wall terminates at a return, which appears to have been the side of an archway; above it there seems to have been an embrasure of greater width, but the side is broken short of the external face. We may fairly confidently restore a gateway of the type common in the thirteenth century, with superimposed arches, the upper blind except for a central arrow-slit. The later backing expands at the lower arch to the full width of both walls, but breaks off within a metre, and no masonry is preserved above the arch level. Beyond, to a length of several metres, the scarped rock face (about 1·50 high) is again exposed, first in prolongation of the wall and then curving towards the south-east. A little cement-lined cave has been cut into the last stretch (and is visible in a photograph published by Martinori, Lazio Turrito, ii, p. 83).

At the north end the medieval west curtain stands unbacked, and shows traces of a low vault set into the inner face, as though to cover the end of a room. A wall, which, if prolonged, would meet the south edge of the apparent vault-curve, became visible in 1960 in a recently dug pit, half-way to the north-west corner of the tower; the position suggested that this was the south wall either of a cistern or some substructure so far behind the north curtain that the vault could not have spanned the entire gap, and Stiesdal’s excavation has since confirmed identification as a cistern. The precise site of the north curtain cannot be seen, owing to later alterations; the wall must have stood upon the edge of a rock terrace, then doubtless irregular in outline. The central portion is now cut straight and sheer, parallel with the north side of the tower, wherein courses of tile were inserted to take a vault, probably over a loggia which reached the edge of the terrace. A continuation of the chase (with a different fill) at the north-west corner indicates the position of the end wall, but at the north-east corner a similar chase seems to contain tiles running out obliquely as though two vaults had met there, and, in fact, a vault did spring from the east side of the tower, at a slightly higher level, to cover a hall.

The ground beneath the northern terrace descends steeply to another little cliff, revetted towards either end by masonry, which at the west end resembles that
of the tower while at the east it is crude and obviously later work. Probably a medieval outwork occupied at least the western half of the slope. The east end was eventually built up to retain a tall Renaissance structure, which ran down the slope from the hall. The south wall of this building does not quite meet the terrace of the loggia but stands free and hooks over it, rising high above it; on the northern face may be seen the springs of two barrel-vaults (with an intervening row of putlog holes, presumably for the centering of the upper vault). The lower spring alone is preserved on the north wall close to the the upper corner; no other portion of that wall has remained intact, all the remainder having been replaced in exceptionally poor rubble against the jagged break. Most of the party-wall that met the hall has also fallen, but a slanting chase may show where a stair rose to the upper floor.

The hall stood upon two vaulted rooms, each lit by a rectangular window in the east wall, in which also (at the north-east corner) is a fireplace with a chimney. Although the masonry of the hall is somewhat crude, incorporating many re-used blocks, much of the south wall stands to its full height and the east wall is almost intact with its pair of tall rectangular windows (directly above those below) and a large fireplace and chimney in between. The roof has fallen but enough remains at the corners to establish that there was a cloister-vault; at the north end it must have fitted over the roof of the loggia, and for the rest was bedded into the tower by courses of tiles (pl. XXXII, b). Superimposed doors led through the south wall to another room on each storey. Here only the east wall remains, and that only up to the spring of the vault; in the lower storey is a window and a small chimney (cut down the middle by the breaking-away of the wall). Externally the east wall descends as a revetment far below the ground floor, even at this upper end of the slope; the pronounced batter may be only a facing added to a medieval revetment to sustain the extra thrust, but it would in any case have been inevitable. A white band, across the windows of the hall, formerly projected as a string-course. The style of the whole palazzo suggests a date close to 1500. The ruins must be deteriorating very quickly; Tomassetti (iii, p. 354) reports, on the south side, remains of a loggia with round arches and of stair ramps, but not a vestige of them could be seen in 1958.

A. W. Lawrence
THE PURPOSE AND ORGANISATION OF THE ALIMENTA

Page

Introduction: the nature of the evidence  . . . . . . 124
I. The object of the alimenta  . . . . . . . . . . . . 126
II. The social basis of the alimenta  . . . . . . . . . . . 130
III. The rationale of the alimentary loans  . . . . . . . . . . . 135
IV. The alimenta after Trajan  . . . . . . . . . . . . 142

Appendix:

I. The Table of Ligures Baebiani  . . . . . . . . . . . . 144
II. Numerical résumé  . . . . . . . . . . . . . . . . . . . . . . . 145
III. The Regional distribution of the alimenta  . . . . . . . . . . . 146

Abbreviations

Billeter  G. Billeter, Geschichte des Zinsfusses im griechisch-römischen Altertum, 1898.
CIL  Corpus Inscriptionum Latinae
De Pachter  F. G. de Pachter, La Table hypothétique de Veleia, 1920 (Bibliothèque de l’École des Hautes
Études, fasc. 228).
DS  C. Darenberg, E. Saglio, E. Pottier, Dictionnaire des antiquités grecques et romaines,
1877–1919.
Henzen  G. Henzen, ‘De Tabula Alimentaria Baebianorum’, Annali dell’Istituto di corrispondenza
archeologica, 1844, pp. 5–111.
ILS  H. Dessau, Inscriptiones Latinae Selectae, 1892–1916.
Mattingly  H. Mattingly, Coins of the Roman Empire in the British Museum, 1923–.
RE  Pauly, Wissowa, Real-Encyclopädie der classischen Altertumswissenschaft, 1893–.
Ruggiero  E. de Ruggiero, Dizionario epigrafico di antichità romane, 1895–.
SHA  Scriptores Historiae Augustae.
Staatsrecht  Th. Mommsen, Römisches Staatsrecht, 1887.
Veyne I and II  P. Veyne, ‘La Table des Ligures Baebiani et l’institution alimentaire de Trajan’,
Mélanges d’Archeologie et d’Histoire (de l’École française à Rome), 1957, pp. 81–135,

INTRODUCTION

The opening of Trajan’s reign saw the propagation in Italy of a system of government alimenta or subsistence payments, which had perhaps been begun by his predecessor, Nerva.¹ Their immediate purpose was clearly the support of children

¹ According to the fourth-century writer Aurelius Victor (Epit. de Caes. 12, 4), Nerva founded the alimenta, but there is perilously little corroboration from any other source. Cf. M. Hammond, Mem. Amer. Acad. in Rome xxi, 1953, pp. 147–151.

This paper owes much to the criticisms and suggestions of Professor A. H. M. Jones. I am indebted to Cambridge University Mathematical Laboratory for the use of calculating machines.
in the small inland towns of Italy at which units of the scheme were mainly concentrated. Male recipients of the alimentary dole were given a cash payment of HS16 per month; girls received HS12 per month, the amounts given to illegitimate children being somewhat lower for both sexes. Hadrian laid down that boys who benefited were to be given support until the age of 18, and girls until 14; under Trajan, the ages at which support ceased had presumably been lower. The scheme was financed by grants from the fiscus which were placed with landowners in the districts in which children were to be supported. In general, each landowner who took part in the loans received a sum amounting to about 8% of the stated value of his land, and had to pay to the city interest of 5% per year, which formed the income from which the children were supported.

The object of this paper is to consider in some detail the overall purpose of the alimentary scheme and the mechanism by which it was administered. The questions that are to be asked can be set out schematically:

1. Did the alimentary scheme have, as has often been suggested, the dual object of supporting needy children, and at the same time providing cheap credit as a benefit for the landowners of the districts to which it was extended?

2. What were the circumstances of the children benefited by the alimenta?

3. To what class or classes of society were the alimentary loans assigned?

4. What was the basis on which the alimentary loans were distributed? Why were they always so small in relation to the value of the land pledged as security; and why was their size very often inconsistent from one property to another?

The Nature of the Evidence

The amount of surviving evidence about the details of the alimenta to be found in literary sources is almost negligible: what literary references there are have mostly been utilised in the last section of this paper (pp. 142–144 below). For information in depth, we are almost entirely dependent on the inscriptions. These consist in the first place of two bronze tablets of the reign of Trajan, both of which describe the financial basis of the alimentary scheme at the towns from which they come. The longer of the two, the Table of Velleia, which runs to 674 lines, also reveals the

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1 Ruggiero (I, p. 405) lists 39 towns at which government alimenta are attested or implied by the mention of magistrates in charge of alimentary funds. There is a marginal possibility of error here in that private gifts of great size could also lead to the creation of magistracies for the administration of their funds (CIL XI, 6369 and 6377; R. Cagnat, etc., Inscriptions latines d’Afrique, 320); and private alimentary gifts are not unknown in Italy. But there can be little doubt that the great majority of references to magistrates in charge of alimenta must indicate the presence of the government scheme. Capua is wrongly included in R.’s list, but one of the inscriptions cited (CIL X, 3910) indicates that there were alimenta nearby at Cales, which he does not mention. The inscription which R. lists under Urbinum (Muratori, 238, 3) has since been assigned by Bormann to Pitinum Mergens (as CIL XI, 5957). Six more towns can be added, bringing the total up to 45 (Nomentum, Pisauro, Saturnia, Industria, Formiae and Capena: ILS 4378; 5057; 6596; 6745; Année épigraphique, 1926, 126–127; 1954, 167). A list of all 45 towns is given below in Appendix III (p. 146), and their locations are shown by the distribution map on p. 125. Also see Addendum p. 146.

2 CIL XI, 1147, 1.2 of the preamble; vii, 34–35.

3 Digest XXXIV, 1, 14, 1.

4 See Appendix II below, pp. 145–146.
number of children supported at that town (300) and the sex and civil status of the children there. The Table of Ligures Baebiani is more concise; although it contains summaries of loans to 66 individuals, as opposed to 52 at Veleia, its length was probably no more than 246 lines in all. The first of the three columns of its main list has a vertical break which means that 80 of these lines are fragmentary. But enough information is given by the surviving part of the first column to allow us to calculate the total size of the sum invested at Ligures Baebiani.

Besides these large-scale texts, there is a bronze tablet from Ferentinum recording the decree by which the ordo there gave the title of patron to the consular in whom the task of organising the alimenta at their town had been vested. And there

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9 CIL XI, 1147, 1.3 of the preamble; Mommsen's commentary to CIL IX, 1455, p. 129; Billeter, pp. 191–198.
9 The two schemes at Veleia supported in all 263 boys of legitimate birth, 1 spurius, 35 girls of legitimate birth, and 1 spuria.
9 CIL IX, 1455. See Appendix I below.
90 CIL VI, 1492.
are inscriptions from another 42 Italian towns which briefly indicate the existence of government *alimenta* there, most often by the mention of a ‘quaestor alimentorum.’\(^{11}\)

The main evidence is thus provided by the two alimentary Tables from Veleia and Ligures Baebiani. Although these do not make up a sample as large as we could wish (half a dozen such documents would be much better), the high density of the information contained in each is great enough to justify a detailed and co-ordinated analysis. There can be no guarantee that the conclusions which are made will all be valid for the whole of the alimentary scheme as it existed in different parts of Italy. Nothing can disguise the fact that the system of loans used in the main scheme at Veleia (in Aemilia) was more complex than that applied at Ligures Baebiani (in Samnium). But the Veleian scheme was at least two, and perhaps as much as 12 years later in date (the dating being A.D. 103/113 against A.D. 101), and the average size of the estates with which the commissioners were dealing was very much larger at Veleia than it had been at Ligures Baebiani. It seems most unlikely that Roman administration was inventive enough to produce many further elaborations of the alimentary loan-system, especially if, as is argued below, the main propagation of the scheme during the whole period for which it existed took place at the outset, in the reign of Trajan. Thus, such coherent notions of the character of the alimentary loans and payments as emerge from a detailed study of the two surviving inscriptions in which they are described will probably have some general historical value.

I. THE OBJECT OF THE ALIMENTA

The basic procedure followed in setting up the *alimenta* in Italian provincial towns seems to have been cumbersome. First of all, the government agency concerned fixed the number of beneficiaries to be supported at the town in question (at Veleia the final total was one of exactly 300). Its commissioners must then have invited local applications for support, closing their offer when enough eligible children had been found and the agreed total had been reached. Thereupon the annual payment required to maintain the children at that town was calculated; this could not have been worked out until the sex and civil status of all the actual beneficiaries were known, since there were four rates of benefit.\(^{12}\) A sum 20 times larger than the income required each year was now allocated by the treasury, and parcelled out at a low rate among a number of local landowners; this stage by itself was a complete process, since it involved detailed enquiry into local landholdings. The overall supervision of payments after the scheme had been set up was undertaken by government servants of senatorial and equestrian rank, but the immediate administration of the funds was to some extent (perhaps entirely) in the hands of magistrates of the towns themselves.\(^{13}\)

An additional complexity of procedure whose meaning is not yet clear is found in the setting-up of the *alimenta* at Veleia. Here a preliminary small-scale version

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\(^{11}\) See n. 2 above.

\(^{12}\) *CIL* XI, 1147: boys received HS16 or HS12 per month, depending on whether they were legitimate, girls HS12 or HS10.

\(^{13}\) Ruggiero I, pp. 406–408; Staatsrecht II, pp. 1079–1081.
of the scheme that finally came into being was set up under the supervision of a consular curator, Cornelius Gallicanus, for the support of 19 children.\textsuperscript{14} Although the terms under which land was engaged were different here from those in the much larger subsequent scheme,\textsuperscript{15} these provisions were allowed to stand alongside those of the later scheme.

This institution was evidently intended to encourage a rise in the birth-rate.\textsuperscript{16} In an official speech delivered before the emperor in A.D. 100, the younger Pliny spoke of Trajan’s benefactions for the support of children as a source of future demographic increase and consequent prosperity: ‘ex his castra, ex his tribus replebuntur, ex his quandoque nascentur quibus alimentis opus non sit.’\textsuperscript{17} A motion passed a year later by the town-council of Ferentum referred to responsibility for the alimenta at that town as a ‘cura...qua (Imperator) aeternitati Italiae suae prospexit.’\textsuperscript{18} A Trajanic coin-issue probably connected with the alimentary scheme bears the legend ‘ITAL(ia) REST(ituta)’.\textsuperscript{19}

Most modern historians who have dealt with the alimenta have seen in them the further object of providing the landowners who accepted loans with cheap credit, as a benefit in itself.\textsuperscript{20} Some have even regarded it as the primary purpose of the scheme. It has been held that Nerva and Trajan clearly showed themselves to be concerned for the state of Italian agriculture, when the first made allocations from the ager publicus to members of the Roman proletariat,\textsuperscript{21} and the second made it a condition of eligibility for office at Rome that one-third of every candidate’s resources should be invested in Italian land.\textsuperscript{22} If there are such background facts, it seems natural to discern the wish to revive Italian agriculture in the founding of an institution one of whose effects was certainly to provide landowners with credit.

But at no point is this argument secure.\textsuperscript{23} Nerva’s land-allocations may have been intended as much to reduce the numbers of the idle populace of Rome as to also in the SC de aedificis non dirundis of Claudius’ reign (‘cum...totius Italicae aeternitati pros- pexerit,’ ILS 6043, 1.4).

\textsuperscript{14} CIL XI, 1147, vii, 31 ff. The view of Henzen (p. 14) that the mentions in obligationes 16 and 17 of land ‘already pledged through Pomponius Bassus (another consular) indicate one more prior stage in the establishment of alimenta at Veieia seems unsound. There is no hint of the activities of Bassus elsewhere in the Table, which is apparently a complete account of the Veieian alimenta as they stood at the time. The most probable explanation of his occurrence here is that the two large landowners in obligationes 16 and 17 had, at a date before the setting up of the Veieian alimenta, pledged some land which they owned outside Veieia as security for alimentary loans at another city, over which Bassus presided (cf. p. 142 below). CIL VI, 1492, shows that Bassus had charge of the alimenta at Ferentum, about 200 miles from Veieia, which were being established in A.D. 101, at least two years before the main scheme at Veieia.

\textsuperscript{15} The rate of loan was a rigid 10%, instead of the 8% loosely applied in the subsequent scheme.

\textsuperscript{16} For the historical background to the governmental demographic concern which is evidenced by the alimenta, cf. Bourne, pp. 46–50.

\textsuperscript{17} Panegyricus, 28, 3.

\textsuperscript{18} CIL VI, 1492, 11.11–12; but this phrase may have been no more than a cliché commonly used to describe the emperor’s policies, since it occurs also in the SC de aedificis non dirundis of Claudius’ reign (‘cum...totius Italicae aeternitati prospe- xerit,’ ILS 6043, 1.4).

\textsuperscript{19} Mattingly III, pp. 195, 203.


\textsuperscript{21} Dio Cassius LXVIII, 2, 1; Pliny, Ep. VII, 31; ILS 1019. Cf. Digest XLVII, 21, 3, 1.

\textsuperscript{22} Pliny, Ep. VI, 19, 4. Cf. SHA, vita Marci 11, 8, for a similar measure by Marcus Aurelius.

\textsuperscript{23} As Professor Jones has pointed out to me.
provide pioneers for the opening up of new territory, or the revival of derelict cultivation. Trajan’s measure regulating candidature for office at Rome would certainly have had the result of raising land-prices in Italy, not that this necessarily benefitted those who lived there. But it is evident from Pliny\textsuperscript{24} that the emperor’s move was inspired by the wish to ‘Italianise’ a Senate whose membership was rapidly becoming more and more variegated, by obliging provincial senators to acquire a real stake in Italy as a condition of their taking part in the government of the Empire.

Nor do the \textit{alimenta} offer any better basis for inferring direct official concern about the condition of Italian agriculture at this date. In this context, the granting of loans to landowners in fact gives no indication of philanthropic intention towards the recipients of the loans. For engaging money in land was the normal method of securing a permanent revenue for a perpetual foundation, whether set up by the emperor or by a private individual. This can be seen by comparing the imperial alimentary Tables with nine private foundations in Italy whose basis likewise was revenue from land: one of these certainly ante-dates the period of Nerva and Trajan.\textsuperscript{25} Since the imperial estates were not at this time disseminated widely enough to provide an adequate local basis of payment at each of the Italian cities to which the \textit{alimenta} were extended,\textsuperscript{26} farming out loans to private landowners\textsuperscript{27} was the only effective available means of securing a permanent locally-based revenue. It is doubtful, in any case, whether Trajan would have considered the possibility of encumbering in this way lands which were in theory the emperor’s private property, even for the good of Italy.

The imperial \textit{alimenta} of Trajan’s time would seem to have been directly modelled on the privately given perpetual foundations for the support of children that already existed in Italy at this date.\textsuperscript{28} The short-term cost of making these grants in the form of perpetual foundations was enormously greater than the cost of a direct annual subsidy from the \textit{fiscus}, since in order to form a foundation at the interest-rate of 5%, 20 years’ income had to be made available at once. But Trajan was a ruler with whom funds evidently flowed freely,\textsuperscript{29} and the perpetual foundation had the positive advantage that, because it was self-contained, it would protect the dependants of the \textit{alimenta} from suspension of payment in years of treasury deficit.

Modern historians have often assumed also that the government alimentary loans were especially intended to benefit the small landowner as distinct from the commissionarios to place funds on the security of public land. Cf. n. 60 below.\textsuperscript{28} \textit{ILS} 977, an alimentary foundation of HS400,000 set up privately at Atina (Latti) not later than the reign of Nero (cf. Hammond cited above, n. 1); \textit{CIL} IX, 1455; VI, 1492; XI, 1147. The only units of the \textit{alimenta} the dates of whose setting-up are known to us, those at Ligure Bacchini, Ferentium and Veleia, were established in whole or in part before the influx of Dacian gold in A.D. 106 (\textit{CIL} IX, 1455; VI, 1492; XI, 1147). Cf. \textit{CIL} XI, 4351 (A.D. 101/2).
large one.\textsuperscript{30} Internal evidence is strongly against this view. At Veleia, the owners of estates of less than HS50,000 were apparently ineligible for alimentary loans, and more than half of the loans given there went to the owners of property worth at least HS100,000, the four richest of whom declared lands of more than HS1 million in each case.\textsuperscript{31} The markedly lower spread of valuations at Ligures Baebiani (where more than one-quarter of the loans went to the owners of estates worth less than HS50,000) probably represents only the shortage of large estates almost inevitable at a very small town. Ligures Baebiani was one of three small communities attributed to Beneventum,\textsuperscript{32} and the number of children provided for there was almost certainly less than half the number at Veleia, which suggests that the government considered the town’s needs to be much smaller than those of Veleia.\textsuperscript{33} At both towns there was a noticeable tendency for large farms to receive loans at a higher rate than small farms (see below, p. 139). If the loans were a benefit in themselves, as is commonly supposed, their distribution would thus imply the opposite of particular favour towards the small landowner.

But it is very doubtful whether the alimentary loans can generally have been regarded as desirable by their recipients. There is a wide difference between the usefulness of repayable loans given for whatever period the borrower needs them, and that of loans given in perpetuity, as the alimentary funds almost certainly were.\textsuperscript{34} A letter of the younger Pliny written at this date\textsuperscript{35} indicates that a permanent charge impaired the market-value of a landed estate to a greater extent than the mere loss indicated in the amount of the charge itself. When endowing his own alimentary foundation at Comum, which had a promised value of HS500,000, Pliny first made over to the \textit{actor publicus} by \textit{mancipatio} an estate worth considerably more than this, and received it back charged with an annual \textit{vectigal} or rent of HS30,000, which was to provide the income for his foundation. Though it has often been misconstrued, the letter clearly implies both that Pliny was to continue to exploit the estate himself during his lifetime, and that it would remain in private hands in perpetuity, although the city would always have the right to HS30,000 of the annual income from the estate. The object of this device was to protect the fund that Pliny had set up from the neglect suffered by the public lands that came under


\textsuperscript{31} \textit{CIL} XI, 1147, \textit{obligations} 13, 17, 31, 43.

\textsuperscript{32} The other two were pagus Veianus and Caudium (Mommsen, \textit{CIL} IX, pp. 133 and 198). \textit{ILS} 6512 seems to show that Ligures Corneliani was a community separate from Ligures Baebiani (despite \textit{Liber coloniarum}, p. 235), but its site is still unknown (Ruggiero IV, p. 1055, 2).

\textsuperscript{33} Appendix, pp. 144–145 below. Alternatively, the limitation may have lain in a shortage of eligible local estates of adequate size in which to vest the alimentary funds, rather than in a lack of scope for applying alimentary subsidies at Ligures Baebiani. Whichever interpretation is true, the Baebian Table implies that the local ceiling on the amount of alimentary funds that could be applied there was very much lower than the ceiling at Veleia, where funds more than twice as large were invested for the government alimenta (Appendix II, pp. 145–6).

\textsuperscript{34} Henzen, p. 25; Mommsen, \textit{CIL} IX, p. 128, 1; De Pachère, p. 114; Gazetti (cited above, n. 20), p. 365. The arguments of Bourne (p. 59) for thinking the alimentary loans returnable at the request of the landowner take too little account of the great difficulties of financial administration that such a practice would have caused. If landowners were allowed to return loans when they liked, the position of the children already being supported at a particular town would have been greatly jeopardised, if repudiations meant a fall in the income available there. In fact, there is little ground for thinking that landowners were offered a choice between accepting or refusing alimentary loans in the first place (see below, pp. 135–137).

\textsuperscript{35} VII, 18.
the city's direct control. Pliny congratulated himself that because the estate was worth much more than the HS500,000 whose income was represented by the annual charge of HS30,000, it could be sure of always finding an owner who would work it (because enough income would remain after the vectigal had been paid to make it a commercial proposition). Nevertheless, he admitted that because a permanent charge had been placed on the property, its market-value had been lowered by rather more than the sum that he appeared to have donated.

This shows that a perpetual charge on an estate, necessitas vectigalis, had the effect of lowering its value by an amount greater than that which the size of the charge would suggest at first. No doubt consciousness of the obligation to pay the vectigal even in years of poor harvest would discourage purchasers. The fact that the creditor was a public body, both in Pliny's foundation and in the public alimentary loans, would probably have been a further discouragement to future buyers of the estates concerned. For Pliny mentions in another letter, written from Bithynia, that men were unwilling to borrow at the official rate from the city, when they could obtain loans at the same rate from private individuals. It is thus doubtful whether the alimentary loans enhanced the financial position of the recipients enough by their capital value to outweigh the lowering of the market price of each estate caused by the payment of interest at a rate as close to the normal land dividend as 5%.

Having investigated other suggestions, it is difficult to find evidence that the imperial alimenta were founded with any purpose besides that of providing support for the children of the poor, and thus augmenting the birth-rate.

II. THE SOCIAL BASIS OF THE ALIMENTA

(i) There is no direct evidence about the arrangements for the support of the children benefited by the alimenta, beyond the statement in the Table of Veleia of the rates of dole for each sex, though the money was clearly intended as a food allowance. But some inferences can be made from the statistics given in the Veleian text. It is unlikely that a minor town such as Veleia would have had a population large enough to include at one time as many as 264 free orphan boys, although this is the number of male beneficiaries listed in the Table. Furthermore, had the support of orphans been the chief object in view, some institutional backing would have been needed as well as a subsistence allowance, to see that they were cared for adequately, yet the Table promises nothing beyond grants of money. It is therefore likely that the grants were mainly intended for children who had living parents who would look after them. This inference is borne out by a dedication made at Asisium by the 'pueri et puellae qui ex liberalitate sacratissimi principis aliment(a) accipiant,'

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36 'Dominum a quo exerceatus.'
37 'Nec ignoro me plus aliquanto quam donasse videor erogavisse, cum pulcherrimi agri pretium necessitas vectigalix infeberet.'
38 'Nec inveniuntur qui velint debere reipublicae, praeerint duodenis assibus, quanti a privatis mutuantur' (Pliny, Ep. X, 54).
39 See p. 135 below, and n. 79.
40 Although Ligures Baebiianus appears from its Table to have been smaller still, the physical remains of the public buildings of Veleia suggest a small community. The town was sufficiently obscure for the elder Pliny to find it necessary to identify Veleia as '(oppidum) . . . citra Placentiam in colibus' (NH VII, 163). Cf. Studi Veleiati, cited above, n. 7.
41 CIL XI, 1147, preamble, 1.2, and vii, 34.
consensus parentium ex aere conlato.\textsuperscript{43} No more than 300 families,\textsuperscript{43} at most, could have benefited from the alimenta at Veleia, and the whole proletariat of the town would hardly have included fewer families than this.\textsuperscript{44} There would thus have been competition for what were in effect family allowances, and so the authorities would probably have restricted the number of children from any one family who might receive payments, perhaps to the point of allowing no more than one or two beneficiaries per family.

In such circumstances, it would need little acuteness to realise that a son who received the alimentary dole would add more to the household budget than a daughter, whose allowance was 25\% below the masculine rate. All parents who had sons of the appropriate age would thus presumably have applied on their behalf rather than on behalf of daughters that they might have. The tiny proportion of girls in the Table of Veleia (36 out of 300 children benefited in all) may therefore reflect nothing more than the proportion of families whose only children of the appropriate age were girls, among the families that benefited from the scheme. It is certainly not a realistic indication of the sex-ratio among the children that Veleian parents chose to rear, for no race in which males were allowed to outnumber females by seven to one could have survived for long.

(ii) Every town of Roman type had an ordo, or town-council, which generally consisted in Italy of 100 decurions.\textsuperscript{45} The qualification for membership was wealth, as indicated by the ownership of land. Since the alimentary lists apparently contained some of the wealthiest local landowners,\textsuperscript{46} we might well expect to find here some reflection of the membership of the ordo. It is surprising to find that this is not so.

The complete absence from both Tables of any direct indications of the status or occupation of the landowners concerned is probably without significance.\textsuperscript{47} But other internal evidence suggests that participation in the alimentary loans by members of the ordo cannot have been on a large scale, if it took place at all.

Firstly, the number of participants in the alimentary loans is too few to make up a whole ordo at either of the towns in question. At Ligures Baebiani, at most 65

\textsuperscript{43} ILS 6620 = CIL XI, 5395. Cf. CIL XI, 4851.
\textsuperscript{44} This was the total number of children benefited: CIL XI, 1147, preambule, 1.2 and vii, 34–35.
\textsuperscript{45} Compare the figure of 2,400 deduced for the population of another small Italian town (Virgil’s ‘parva Petelia,’ Aen. III, 402) in a paper by the present writer to appear in Historia 1964 pp.199–208.
\textsuperscript{46} W. Liebenam, Städteverwaltung im römischen Kaiserreich, 1900, pp.229–231.
\textsuperscript{47} The Table of Veleia (CIL XI, 1147) contains in all 499 mentions of private persons as owners of holdings adjacent to those being declared: most of the landowners who appear as principals in the Table recur elsewhere as neighbours, and from the frequency with which they are mentioned, it appears that the landowners who received loans were among the largest of the region. The average number of mentions per head as adfinis for the 47 private landowners who themselves received alimentary loans at Veleia is 3.85, against an average for the 197 other persons mentioned of 1.61 mentions per head.

For Veyne, however, ‘la prosopographie montre que près d’un quart au moins des propriétaires étaient de noblesse au moins municipale,’ among those who received loans at Ligures Baebiani (Veyne II, pp. 218–219). Since neither this Table nor the Table of Veleia gives a single mark of rank to any of the landowners who are listed, the conclusion is exceedingly doubtful. There are certainly interesting coincidences of name between individuals in the Baebian Table, and undated inscriptions from the same district that speak of knights and magistrates (Veyne II, pp. 205–215). But this does not necessarily indicate anything more than that members of some of the families who took part in the alimentary loans in a.d. 101 attained the ordo decurionum or the aequus publicus as a date which could be earlier or later than that of the Table. Homonymy alone is not usually enough to prove that two inscriptions refer to the same individual, or that they were engraved within one lifetime.
of the 66 parties declaring land were private landowners; at Veleia, 47 out of 48 parties were private landowners. Secondly, the smallest estates at Ligures Baebiani, those of HS20,000 and below, of which there are six in all, appear much too small for their owners to have achieved any likely qualification for office on the basis of the wealth indicated here. A further 23 Baebian estates were worth HS50,000 or less. At Comum (a much larger city, it is true) the property-qualification for the decurionate was certainly as high as HS100,000; and this level appears to have been regular in Italy, though perhaps only in towns of a certain size. Thirdly, a number of recipients of the alimentary loans both at Veleia and at Ligures Baebiani were probably ineligible for the decurionate for reasons of status or domicile. Eight of the landowners at Veleia, and at least three of those at Ligures Baebiani, were women, debarred from the ordo by their sex. Twenty-three of the landowners at Veleia, and ten of those at Ligures Baebiani made their declaration of lands or their payment of interest through some intermediary, either a slave, a freedman, a relation, or a neighbour. There is a presumption in each case that the landowner concerned was not regularly resident on the estate which he declared here. Yet residence was normally required for membership of the ordo. Finally, six of the landowners at Veleia, and at least eight of those at Ligures Baebiani had Greek cognomina, suggesting freedman origin or descent. As is well known, the official body in Italian towns to which freedmen or those of freedman stock were most likely to belong was not the ordo decurionum but the ordo Augustalium, an institution which existed at both the towns from which our evidence comes. Thus a substantial proportion of the landowners in both lists seem either to have been ineligible for the decurionate, or to have been so circumstances that they are not likely to have held it at these towns. Taking the total of all women, absentees and bearers of Greek cognomina, 31 of the 47 private landowners listed in the Table of Veleia show strong signs of having been disqualified, as do 20 of the 48 private landowners in the Baebian Table whose names survive. Others in this Table seem to have had estates too small to qualify them for the decurionate, and the 17 missing names in the first column may have included those of more female and freedman landowners.

The proportion of participants in the alimentary loans who were probably

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43 Seventeen of the original 66 names of owners of estates are missing. One of the estates whose owner is known belonged to the town of Ligures Baebiani (CIL IX, 1455, iii, 21).

44 Obligatio 43 consists of land owned by the colony of Luca. The remaining 45 loans in the main scheme at Veleia went to private landowners, three of whom had already taken part in the scheme organised by Cornelius Gallicanus (obligations 16 and 47; 30 and 49; 13 and 51). The remaining two participants in the Gallicanus scheme (obligations 49 and 52) do not appear in the main list; hence a total of 47 participating landowners. (Cf. n. 104 below.)

45 HS20,000 and below, CIL IX, 1455, ii, 45; iii, 8, 36, 38, 48, 50. Between HS50,000 and HS21,000: ibid., i, 17, 45; ii, 7, 10, 13, 16, 42, 45, 71, 74; iii, 3, 5, 10, 20, 40, 42, 44, 46, 57, 61, 64, 71, 73, 76.


48 CIL XI, 1147, obligations 9, 25, 31, 32, 35, 38, 39, 52; CIL IX, 1455, ii, 5, 37, 53; iii, 45 shows a property one of whose joint-owners was a woman.

49 CIL XI, 1147, obligations 1, 8, 9, 10, 12, 14, 15, 16, 19, 22, 23, 25, 29, 30, 31, 33, 34, 35, 37, 38, 41, 42, 52; CIL IX, 1455, i, 27, 41, 54, 65, 69, 74; ii, 3, 16, 71, 74.

50 Lex coloniae Gettianae Iuliae sine Ursonensis, xci (ILS 6087); Digest L, 2, 1 and 2.

51 CIL XI, 1147, obligations 6, 7, 13, 22, 29, 40; CIL IX, 1455, ii, 8, 34, 43, 72; iii, 4, 33, 35, 72.


53 CIL IX, 1461; XI, 1161, 1162. Even after 120 years of further social change, bearers of Greek cognomina formed only one-quarter of the decurions in the aliment of Camusium of a.d. 223 (CIL IX, 338).
debarred from the decurionate is so high, especially at Veleia, where most of the estates declared are so large that we should expect their owners to include many members of the local ordo, that we may reasonably ask whether decurions can have been included at all among those to whom alimentary loans were given. From other evidence it seems quite possible that the emperor may have decided to exclude the decurions from the alimentary loans as a matter of policy. The quality of local government in Italy clearly seemed to him inadequate at this date; for Trajan made the new departure of installing in Italian cities curatores rei publicae, officials charged in particular with strict supervision of all public expenditure by the city.\footnote{Ruggiero II, pp. 1345–1377; Staatsrecht II, pp. 1082–1084. \textit{Cf.} especially ILS 5918, which describes the functioning of the office at an Italian town in the reign of Trajan.} The younger Pliny provides independent evidence for the inadequacies of local administration: in one letter he was quite open in advising a friend against allowing a proposed local benefaction to take the form of making over an estate to the care of their native town (Comum), because, like all the public lands, this would be neglected.\footnote{\textit{Des agros ut publici neglegentur} (Pliny, \textit{Ep. VII}, 18). By the time of Hadrian at least, Comum had received a curator rei publicae (\textit{CIL V}, 4368).} It would agree with Trajan’s concern for the good government of the cities of Italy, as elsewhere, to have protected the class who undertook the main civic duties and financial expenses from further burdens, through excluding them from the alimentary loans.

There was a further simple argument of expediency which might have been applied at any time, namely that giving alimentary loans to decurions was undesirable because it was unsafe to allow local functionaries a personal stake in funds under their supervision on which regular interest had to be exacted. The alimentary funds were administered at the local level by magistrates belonging to the ordo (p. 126 above and n. 13). They would be the more reliable as administrators if none of the money which they were asked to collect had to come out of their own pockets. A restriction analogous to that suggested here can be seen in Ulpian’s reference to the fact that decurions might be forbidden by law to cultivate the public lands belonging to their city (the danger there being that rents would be conveniently forgotten if tenant and bailiff were the same person).\footnote{\textit{Si decurio subiectis aliórum nominibus praedia publica colat, quae decurionibus conducere non licet secundum legem, usurpata revocentur} (\textit{Digest L}, 8, 2, 1). Also \textit{Digest L}, 2, 6, 2.}

At this point, we must consider whether there is any direct indication of the existence of a large number of substantial landowners in the districts concerned besides those who received alimentary loans, since the exclusion of decurions from the loans would have brought this result. Veleian evidence strongly suggests that there was such a class (the Baebian Table is too short and unsystematic to provide any useful indications here). Out of the 47 private landowners who declared estates at Veleia, 38 are also mentioned as neighbours at some point in the list\footnote{These statistics are based on Bormann’s tabulation of ‘
\textit{Populi. Hominres}’ in \textit{CIL XI}, pp. 229–231.} (as was prescribed for the census, the position of each farm was identified here by the names of the owners of two adjacent farms.)\footnote{\textit{Digest L}, 15, 4.} The total number of such mentions of landowners who declared lands to the alimentary commissioners is 181, making an average of 3.85 mentions per head for the 47 landowners concerned in the two

\footnote{\textit{Si decurio subiectis aliórum nominibus praedia publica colat, quae decurionibus conducere non licet secundum legem, usurpata revocentur} (\textit{Digest L}, 8, 2, 1). Also \textit{Digest L}, 2, 6, 2.}

\footnote{These statistics are based on Bormann’s tabulation of ‘
schemes at Veleia. The majority of references to neighbours, however, concern persons who do not appear in the list in any other rôle. Of these, the 47 private individuals who appear most frequently are mentioned 164 times in all, thus being mentioned on average 3.49 times per head. Thus the Table itself suggests that there was a second group of landowners at Veleia which was as large as the group who received alimentary loans, and whose estates had in aggregate about the same degree of prominence on the local scene. In addition, four more individuals outside the scheme each receive two mentions as a neighbour, and 146 more appear as neighbours once only. This repertoire is amply big enough to allow the existence of an ordo of 100, none of whose members received alimentary loans, though there is no reason to think that such a casual and haphazard source necessarily enumerated all the landowners of the district. The fact that so many ad fines outside the alimentary scheme were mentioned once only is no proof that their estates were insignificant. For 9 of the 47 private landowners who received alimentary loans do not themselves anywhere appear as neighbours, although the smallest of the estates which they declared had a value of HS$50,000.

It can still be objected that if decurions were excluded from the alimentary loans, it is surprising that no hint of this is directly given by any of our sources. But the argument is very weak, for none of the historians even goes so far as to mention that loans were the mechanism by which the alimentary scheme was maintained; while what little survives of the juridical corpus of the Principate depends too much on selections made by Byzantine compilers (by whose day the government alimenta had long since vanished) for omissions from it to be a basis for historical argument. The authors of the alimentary Tables themselves had no occasion to make overt mention of the rationale behind their distribution of loans: no direct statement about the rate of loan appears in their text (8% is entirely a modern inference from the surviving co-ordinates), and, as has been mentioned, neither the rank nor the filiation of the landowners who took up the loans is given. The silence of the inscriptions about the composition of the class receiving loans seems to have no significance.

The balance of evidence thus somewhat favours the view that the category of landowners to whom alimentary loans might be given did not include decurions. Though negative, this implication is not without importance. For example, if the number of potential recipients of the loans excluded all decurions, the possibility of being able to spread the alimentary loans on a voluntary basis would have been even more slender than would have been supposed on other grounds (see below, p. 135). Again, if the ordo was excluded from the loans, contrasts between the size of landholdings at different towns of different size would tend to be artificially exaggerated, since at very small towns such as Ligures Baebiani, the ordo would probably have contained virtually all the landowners of any size. The difference in size between the estates at Veleia, and those at Ligures Baebiani, strongly emphasised by Mommsen, may thus have been much less extreme than the lists of holdings.

44 By this criterion, the emperor appears as a landowner of no more than medium size in this region, with four mentions as ad fines (CIL XI, 1147, iv, 69, 76; vi, 2, 37).
45 CIL XI, 1147, obligationes 12, 33, 34, 35, 36, 38, 39, 44, 52.
46 Ibid., obligationes 8 and 29.
in the alimentary Table would suggest at first. And if the alimentary loans were withheld from the decurions, who formed the lowest stratum of what later became known as the *honestiores*, it is not inconceivable that the exemption of all classes higher in the social hierarchy (*indices*, knights and senators) would have followed as a result, although this is wholly conjectural.

III. THE RATIONALE OF THE ALIMENTARY LOANS

The distribution of alimentary loans by the government presents two basic problems: what determined who was to receive the loans, and what determined the amount of the loan when a recipient had been found? Loose answers can be given easily. The recipients of the loans were the owners of land in the vicinity of each city concerned; and the loans given were related to the valuation of the property declared by each individual, averaging *en masse* roughly 8% of the value of the property, at both towns from which there is evidence, despite a host of individual deviations from this level.68 But can we readily believe that enough recipients came forward voluntarily, in view of the cogent reason against accepting loans in perpetuity mentioned above (p. 129)? And can mere random error account for a pattern of distribution so eccentric that fewer than half of the loans approximate closely to the norm of 8%?

(i) Although we cannot assume that the alimentary loans were always unwelcome to the recipients,69 there is more than one ground for thinking that they were not farmed out on a voluntary basis.70 As Pliny the younger indicates (see above, p. 129), a permanent rent-charge detracted inordinately from the market-value of a landed property. The Veleian Table is punctilious in listing all subtractions that had been made before the present valuation of the property of each individual was arrived at, strongly suggesting that the whole of his land in the district concerned was liable to be pledged under the scheme. If the declarations were no more than voluntary enumerations of some of the local landholdings of the persons concerned, there would have been little object in specifying that sections of the individual's estate had been pledged under previous alimentary schemes, and that parts of it were liable to a *vectigal*, for which deduction had been made.71 At Veleia there was

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68 See Table, p. 138 below.
69 Nevertheless, in suggesting that the recipients of loans could have profitably re-invested their funds because the interest-rate on the alimentary loans was only 5% (against a legal maximum for usury of 12%), Bourne (p. 69) considerably overrates the commercial opportunities that are likely to have been available in the small inland towns at which the *alimenta* were mainly concentrated. But supposing that a majority of the recipients at a given town had been able to re-invest their loans, either by fresh purchases of land or by usury, it is doubtful whether circumstances would have allowed much margin of profit even then. For the effect of such a sudden release of capital in a small area would have been to raise land-prices, thus lowering percentage yields, and to reduce interest-rates for usury as well. Pliny and Columella indicate clearly (n. 79 below) that 6% was the normal yield to be expected from Italian land, and the alimentary borrowers would have had to do better than 5% in order to make any profit. Re-investment in land would thus have been a doubtful proposition at best; while re-lending the money (if feasible at all), although it would bring in a higher rate of interest for the duration of the loan, would have been difficult to contrive over more than short periods.
70 The view that the alimentary loans were farmed out on a compulsory basis has already been put forward in print by Professor Pignoli, though without any arguments being given (*Annaire du Collège de France* 1952, p. 230). Cf. Billeter, pp. 193-195.
71 The most elaborate example reads 'C. Coelius Verus . . . prof(esus) est praed(ia) rustica in Plac(entino) et Veleiate et Libarnensi, deducto vectigali et is quae ante Cornelius Gallicanus et Pomponius Bassus obligaverunt, HS (843,879), accipere debet HS (67,850)' (*CIL XI*, 1147, *oblig.* 16).
often widespread differentiation of the rate of loan given to units within the estate of one individual. The determining of the rate of loan thus clearly lay with the commissioners, since the landowner himself would have no interest in complicating the obligation that he had to remember by accepting on one farm a loan of 6%, on another 7%, and on a third 9%.

The very high security asked (a normal 12½-fold, never falling below 9-fold, and occasionally rising to 30-fold) is not consistent with the hazards that would have been involved in allowing the extension of the scheme to depend on the willingness of private landowners to take part in it. A lower rate of cover would have been more in line with precedent, and would have allowed the scheme to be run on the same scale with far fewer participants in the loans. Augustus and Tiberius had both been willing to lend money on 2-fold security in land. The much higher security demanded here suggests the confidence of finding enough takers that would only be given by compulsory powers of farming out loans in the regions concerned. The Velean inscription, with its round-figure total of 300 children in all, strongly implies that the number of children to be supported at a given city was definitely fixed by the government, instead of depending in a haphazard way on the willingness of individuals to take up loans.

The fact that the government gave very small loans suggests compulsory powers of placing them with whom it chose. But why it should have complicated its task by keeping the rate of loan so low is obscure at first sight. It would be understandable to have made some provision for a possible future drop in Italian land-values by demanding, say, 4-fold security, or twice what the Julio-Claudian emperors had asked for their loans of limited duration. But it seems unlikely that this consideration could account for the decision to ask 12½-fold security, thereby trebling the quantity of land that had to be subscribed as security for the loans, and complicating the administration of the scheme to a corresponding degree.

A clue can be found in the letter in which Trajan reacts strongly (in words that are surely his own, not those of his secretary) to Pliny’s suggestion that he should use his powers as consular legate in Bithynia to impose on the town-councillors loans from public funds at the interest-rate of 9%. ‘To force the unwilling to accept loans that may be useless to them is not consistent with the justice of my reign.’ The emperor thus showed that he was alive to the potential oppressiveness of placing forced loans. In circumstances in which the government saw no reasonable alternative to imposing forced loans, awareness of their dangers would provide a strong reason for spreading the money as widely as was consistent with administrative convenience. The purpose of the alimenta was philanthropic and public-spirited; if prompted by declining or stationary census figures, their inception may even have been a matter of public urgency. In the context described by Pliny in

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33 The Table of Ligures Baebiani contains the extremes of 10·92% and 2·94% (CIL IX, 1455, i, 16–17; ii, 10).  
34 Suetonius, Aug. 41; Tacitus, Ann. VI, 17.  
35 See n. 43 above.  
37 Pliny, Ep. X, 54–55; the interest-rate is given as ‘duoderis assibus,’ which is misconstrued as 12% by Ruggiero I, p. 405, 1, and by most modern translators of Pliny. See Billiter, p. 105.  
38 ‘Invito ad accipienda compellere, quod fortasss ipsis otiisum futurum sit, non est ex iustitia nostrorum temporum.’
Bithynia nothing so vital was at stake; investment of the funds concerned there was merely a means to greater financial security for the already prosperous cities of that province, not part of an important welfare programme: therefore the convenience of individuals could be placed above the exigencies of financial administration. But in Italy, where an object as important as population increase was in view, the emperor evidently thought it necessary to ask some sacrifice from the landowners of the regions that the alimenta were to benefit. In the heavily circumscribed financial conditions of Roman society, the inconvenience of the agents of payment was an almost inevitable price when a really large-scale welfare programme had to be floated in a short time. But by spreading the loans as widely as possible, any hardships which they caused could be reduced to a very small scale. In the event, the total sum bestowed was not more than 8% or so of the assessed value of the estates of the recipients, and the rate of interest that they were asked to pay, 5%, was one-sixth lower than the normal rate of land-dividend in Italy.  

The alimentary loans were not intended as a benefit, whether or not the bulk of recipients were able to regard them as such. Whichever was the case—and it is easier to find arguments to suggest that they were mainly an unattractive proposition for those who received them—it appears that the loans were farmed out on a compulsory basis.

(ii) The figures of the alimentary Tables have proved very intractable as a guide to the method or methods by which alimentary loans were assigned. They show quite clearly that there was widespread variation of loan-sizes; and they provide a pattern which is sufficiently consistent and sustained to suggest that the modulation of loan-sizes was intentional. But they do not offer in themselves any easy indication of the nature of the plan behind allocating loans at different rates to different landholdings. What follows is mainly a statement of the problem, not a solution.

The estate-valuations in the Table of Veleia were seemingly provided by their owners, for they took the form of professiones, compulsory declarations of the extent and nature of one's possessions which were the normal basis of the Roman census. In the present case, because the basis for a perpetual fund was wanted, only possessions which would permanently retain some value, that is, landed estates, were declared. The formulation of the declarations was: 'C. Seius professus est praedia rustica HS. . . ." It was usual in the census, as here, for the owner to state the valuation of what he declared: 'omnia ipse qui deferit aestimet.' There is no reason to think that the procedure at Ligures Baebiani differed in this, though the Table from that town is too concise to include an explicit account of the sources of the valuations given there. The estates are merely described as 'aestimat(i),' valued at such and such an amount.

In the Baebian Table there are very frequent disparities between the percentage

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See notes: 29 For 6% as a normal rate of return in Italy, Pliny, Ep. VII, 18; Columella, de re rust. III, 3, 8–13; Pliny, NH XIV, 56.
30 To achieve even this, an elaborate arithmetical analysis of the figures of the two Tables has had to be made, although there is not room here for the many tabulations that would be needed to show its findings in full. A résumé of the main arithmetical results is given in Appendix II, pp. 145–146 below.
32 Digest L, 15, 4.
loan given to the owners of different estates. At Veleia the owner of each estate appears to receive 8% of the valuation which he declared for it, the loans thus following a consistent pattern different from that at Ligures Baebiani. (The norm aimed at in the Veleian loans was, in fact, probably 8·05%.) But a closer scrutiny of the Veleian Table suggests a more complex situation. Most of the 46 declarations in the main scheme at Veleia include several farms, each with its own figures for loan and valuations; as a rule, the arithmetical total of such component valuations does not tally with the aggregate valuation of the estate given in the inscription. In 25 of the 29 instances where there is a discrepancy, the figure alleged for the aggregate valuation is closer to being 12½ times the size of the overall loan given (that is, to being the converse of 8%) than the correct total of the component valuations would have been. It thus seems that the commissioners at Veleia introduced tacit compensations into their figures in order to produce a picture of consistent 8% loans, at least for the casual reader of the Table. The loans which they were in fact making on the security of individual farms, to landlords who owned a number of farms, were as variegated and as inconsistent in size as those given at Ligures Baebiani.

This resemblance of practice can be seen by comparing the pattern of the loans made to individual farms within larger estates at Veleia with the overall loans given at Ligures Baebiani (where estates were smaller and contained fewer units, meaning that the professions were much less complex).

<table>
<thead>
<tr>
<th></th>
<th>Above 8%</th>
<th>Below 8%</th>
<th>Not significantly different from 8%</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veleian component loans.</td>
<td>50 (27-8%)</td>
<td>52 (28-9%)</td>
<td>78 (43-3%)</td>
<td>180</td>
</tr>
<tr>
<td>Baebian overall loans</td>
<td>16 (28%)</td>
<td>20 (35-1%)</td>
<td>21 (36-8%)</td>
<td>57 (incomplete)</td>
</tr>
</tbody>
</table>

The only important discrepancy between the figures from the two Tables in this analysis is in the figures for loans below 8% at Ligures Baebiani (whose sample is much the smaller of the two): 35·1% of the total number of loans, against 28·9% at Veleia. This does not seem to be a serious difference. The Baebian Table is

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82 *CIL XI*, 1147, *obligatio* 39; *cf.* nos. 1, 6, 7, 8, 10, 24, 37, 43, 45, 46.
83 In view of the argument which now follows, Borrmann's suggestion (*CIL XI*, p. 222, 1) that these persistent discrepancies can be accounted for throughout by assuming that tacit compensation was being made for mistakes in stating component valuations does not seem convincing. Such a high rate of error as this would suppose is also unlikely in itself.
84 *CIL XI*, 1147, *obligationes* 2, 3, 4, 5, 11, 12, 13, 14, 15, 16, 18, 19, 20, 22, 24, 25, 26, 28, 31, 32, 37, 42, 44, 45, 46 (accepting de Pachètère's emendations to the totals of nos. 4 and 5, made in the Table opposite p. 100).
85 *Cf.* also Appendix II below, pp. 145-146.
86 A word of explanation is needed to make clear what is meant here by 'not significantly different from 8%.' Most of the loans in both Tables (meaning constituent loans in the case of Veleia) were the broadest approximations, often made merely in units of 1,000 (the proportion of loans made to an accuracy of not more than two figures is 75% at Veleia, and 86% at Ligures Baebiani). This being the practice, many of the loans were bound to differ widely from 8% because this relationship could not be expressed accurately in the round figures being employed for both loans and valuations. As an instance, the loan of HS2,000 on an estate worth HS30,000 (*CIL IX*, 1455, iii, 64) represents on the face of it a loan significantly lower than 8%, being in fact 6·66%. But HS3,000, the next figure in units of 1,000 above the sum actually given, would mean a rate of 10%, which is further from 8% than what was given. Thus within the terms employed here, the loan of HS2,000, though an actual 6·66%, is not significantly different from the rate of 8%. Round-figure loans are here classified as differing significantly from 8% only when the next round figure adjacent to 8% would be closer to that rate than the loan actually given.
incomplete, and an analysis which could make use of all the figures that it once contained might show results that correspond even more closely with the figures from Veleia.

Up to this point the pattern seems to show a random distribution which presents no problems; there are about as many deviations above the norm as there are below it. But the view that variants were completely random runs into difficulty when the size of the holdings themselves is taken into account. The average valuation of the holdings to which high percentage loans were given was significantly higher (at both towns) than the average valuation of the holdings receiving loans below the norm. If this were the only modality, it could be taken as an indication that the aliminary commissioners concentrated capital more heavily on large landholdings than on small ones, because bigger concerns offered better security. But a further showing of the statistical analysis is that the average size of holdings gaining loans not significantly different from 8% was even lower than that of holdings gaining loans significantly below 8%. The mean and median averages of the figures from the two alimentary Tables both show this trend. This will not fit the conjecture that capital was intentionally concentrated more heavily with larger units of landholding, and for the moment, no simple explanation seems to offer itself.

The explanation of the discrepancies in the Table of Veleia put forward by de Pachtere was that the individual valuations of farms were often out-of-date sale-prices, or old census-returns, whereas the aggregate valuations given in the inscription were based on current revenue. But there is no clear basis for supposing a difference in date of origin between the component and the aggregate valuations given in the Table of Veleia. Whatever the source of the overall estate-valuations given there may have been, it was not estimation from current revenue, as de Pachtere supposed. The professiones of the Veleian landowners were to all appearance declarations of the current value of their estates, made on the same basis, and governed by the same sanctions as the professiones of the census. If, as Veyne argued, the discrepancies in the Baebian Table indicate that the aliminary commissioners made additional estimates of their own on which most of the loan-sizes

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88 Appendix I, pp. 144–145 below. Fifty valuations are given in columns 2 and 3, but a further seven can be salvaged from column 1 (see lines 2, 17, 27, 34, 40, 45 and 68 in this column).
89 Appendix II below, p. 146. These trends are confirmed by analysis of the aggregate percentage loans gained by the largest and the smallest properties at both towns (p. 146 below).
90 Appendix II, p. 146.
91 De Pachtere, pp. 106–110.
92 The text is CIL XI, 1147, obligatio 39: 'Glitia Marcella prof[essa] est saltum . . . qui ex reedita aestimatus est HS C.' This declaration, which is unique among those which survive in the alimentary Tables, de Pachtere (p. 108) assumes to be an indication of the usual source from which overall estate-valuations were derived at Veleia. The inference is unsound, because this lady, unlike the other Veleian landowners, did not declare the value of her estate (the standard formulation being 'professus est praedicia rustica HS . . .'). Consequently, the commissioners had to assign a value to the estate themselves (presumably after a conference about the revenue figure); this they stated impersonally and at sufficient length to mark out the procedure as irregular. The total which resulted from their calculation was the roundest possible figure of its size (HS100,000); since the great majority of Veleian overall estate-valuations are not round figures of this kind, there is no basis for assuming that they too resulted from estimates from revenue.
93 Translation of area into money terms by a series of formulae for different types of exploitation (Digest L, 15, 4; Hyginus in Corpus Agrimensorum Romanorum, ed. C. Thulin, I, i, 1913, pp. 168–169
94 Digest L, 15, 4, 8; Codex Theodosianus XIII, 11, 1.
were based, it is difficult to understand why, in this case, the owner’s declarations of value should have been allowed to stand in the list although regarded as unreliable. Nor does the punctiliousness that a second survey of the properties would imply seem to be borne out by the heavy predominance of crude round figures among the Baebian loans. From what little evidence there is, it appears that the modulation of loan-rates, at both towns from which alimentary Tables survive, was dependent on the size of holding, not on the utilisation of several points of reference for working out the loan.

The alimentary loans were allocated by a policy whose purpose is still unclear, but whose effect was to discriminate loosely between different sizes of holding in determining the rate of loan. It is possible to make too much of these perplexing statistical facts; when three-quarters, or more, of the loans were made in the broadest round figures, it is unlikely that the system applied was one of any subtlety. At Ligures Baebiani, it is true, half of the landowners (29 out of 57) received loans which were at least 1% more or 1% less than the modal rate (that is, not more than 7%, or not less than 9%, of the value of their estates). But the scheme at this town belongs to a very early stage in the propagation of the *alimenta* (A.D. 101; if Trajan was their founder, this could not be more than three years after the first moves were made). Later in Trajan’s reign, when the main scheme at Veleia was established (between A.D. 103 and 113), a more sophisticated and evidently more equitable approach had been evolved. Even if, as has been argued above, the arithmetical totals of component farm-valuations represent the truer version of the value of each individual’s lands (in the 29 cases where discrepancies between this and the alleged total valuation are found), the loans still deviated less seriously from the norm than those at Ligures Baebiani. Of these 29 landowners, 23 received loans within 1% of the modal rate of 8.05% (apparently a refinement of the 8% found at Ligures Baebiani): 18 were within 1% of this rate. And the remaining 17 private landowners in the figures for whose estates there are no discrepancies seem certainly to have received loans at the prescribed rate, or at something extremely close to it.

The total loan given in the main scheme at Veleia was very close indeed to the mode of 8%, whether related to the total of overall estate-valuations, or to the total based where appropriate on component valuations: in the first case, the relationship is 8.01%, in the second 7.96%. The overall rate of loan which ensues from the 57 surviving Baebian valuations and the loans which correspond with them is somewhat lower: 7.46%. The nine valuations that are missing from the first column would probably have raised this somewhat, for loans at a low rate are certainly more frequent in the third column of the list than they are in the second. But it can be deduced from the amounts of the loans made to these nine estates that the

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96 Veyne II, pp. 105–204.
94 *CIL* IX, 1455; i, 17, 27, 34, 40, 45, 68; ii, 3, 10, 16, 50, 54; iii, 5, 8, 23, 27, 34, 36, 38, 40, 46, 48, 50, 52, 64, 69, 71, 76, 80, 83.
92 *CIL* XI, 1147, *obligations* 2, 4, *5*, *11*, *12*, *13*, *14*, *15*, *16*, *17*, *18*, *20*, 21, 22, *25*, *26*, *28*, *30*, *31*, 32, *33*, *37*, *45*; those marked with an asterisk were within ½% of the modal rate of loan.
93 *Ibid.*, *obligationes* 1, 6, 7, 8, 9, 10, 23, 27, 29, 34, 35, 36, 38, 39, 40, 41, 43.
97 See Appendix II, p. 145 below. Veyne’s finding that the Tables as they stand indicate the same overall rate of loan at Veleia as at Ligures Baebiani is based on four figures, three of which are incorrect (Veyne I, p. 127, n. 1).
average rate of the loans which they received would have to have been more than
12% to have raised the aggregate rate for the whole Table from 7·46% to 8%.
There being only one instance of a loan higher than 10% among the surviving
Baebian figures,\(^\text{100}\) it is likely that the overall loan at Ligures Baebiani did not quite
reach an aggregate as high as 8%, if its list contained only three columns, as seems
to have been the case (Appendix I below).

(iii) One feature of the alimentary loans has still to be considered: their terri-
torial distribution. The Table of Ligures Baebiani provides inadequate evidence
in this as in other respects: some of the land declared there lay in Baebian territory,
some in Beneventine; but only seven of the 19 pagi to which estates are assigned in
this Table are specifically said to belong to the land of one city or the other.\(^\text{101}\)
The Table of Veleia, however, is consistent in providing detailed information about
the city-territories to which estates belonged. Approximately 76% of the holdings
declared there (taking the valuations as the determinant of quantity) belonged to the
territory of one of the following cities: Veleia, Placentia and Parma. The
remaining quarter of the land lay partly in the territory of Veleia, partly in the
territory of Placentia, Luca, Libarna, or Parma in different cases.

Since ratios cannot be established for holdings which belonged to the territory
of more than one city, precise observations can be made only about the three-
quarters of the total land declared that consisted of holdings belonging to the
territory of one city only in each case. The distribution here is as follows (in per-
centages of the total sum declared in the two schemes at Veleia): 60-60% of the total
value of the land declared was provided by properties on Veleian territory; 14-86%,
by properties on the land of Placentia, a neighbouring city larger than Veleia (the
modern Piacenza); and 0-73% by properties on the territory of the more distant
Parma. The remaining 24% of the value was provided by holdings each of which
included some Veleian territory, and some territory within the boundaries of at least
one other city.

There were two stages in the founding of the alimenta at Veleia, which study of
the territorial distribution of estates does something to illuminate. The first move
towards setting up an alimentary scheme was made before the end of A.D. 102 by
Cornelius Gallicanus, a consular acting for the emperor, who engaged loans (with
five landowners) of sufficient size to provide for the support of 19 children.\(^\text{102}\) As
Bormann noticed,\(^\text{103}\) four of the landowners concerned reappear in the main scheme
set up at Veleia in A.D. 103/113, where it is seen that they were the owners of estates
very much larger than the units that they had engaged under the earlier scheme.\(^\text{104}\)
It turns out that any one of them could have borne by himself the whole of the loan
farmed out by Gallicanus; and the declarations which these landowners subse-
quently made provide four of the five largest estates declared in the later list. It

\(^\text{100}\) \textit{CIL} IX, 1455, i, 17, seems to show a loan of
10-92%; there are two surviving loans of 10%, iii, 23 and 36.
\(^\text{101}\) Veyne I, p. 93 and notes 2 and 3.
\(^\text{102}\) \textit{CIL} XI, 1147, vii, 31 ff.
\(^\text{103}\) \textit{Ibid.}, p. 220, 1.
\(^\text{104}\) One of the four is L. Cornelius Severus (\textit{oblig.} 48), who does not appear in the later scheme
in person. But Bormann’s conjecture that the
Cornelia Severa who declared an estate in the main
scheme at Veleia (\textit{oblig.} 31) was his daughter and
their is virtually certain, in view of their homo-
nymity, and the otherwise unaccountable reference
in \textit{oblig.} 31 to ‘quod Cornelius Gallicanus obligavit’
\textit{(CIL} XI, p. 220, 1).
seems likely that the objective was limited intentionally at the first stage, and that the engagement of loans with five landowners was a pilot scheme, intended to try out the workings of the alimenta at the local level at Veleia, without attempting a full development as yet.\textsuperscript{105}

Here there is further confirmation of the rationale behind the alimentary loans which has been inferred above. Gallicanus selected what appear from the main list to have been the largest eligible landowners of the district with whom to place his loans, despite the fact that in this case the amount of land that had to be pledged was only a minute proportion of the combined value of the estates of the persons concerned. What was in mind here was the spreading of a load, not the distribution of an amenity: the authorities therefore selected the largest landlords, on whom the effects would be slightest, and distributed the loan concerned among a much larger number of persons than necessary, with the result that in four cases at least, they at present pledged only a tiny part of their estates.

This spacious approach had, however, to be abandoned when it came to spreading the much larger loan involved in the main scheme at Veleia, which provided for 13 times as many children again, a further 281. It is fairly clear that the declarations now made were complete enumerations (with exceptions specified where they existed) of all the estates in the neighbourhood of Veleia owned by the persons concerned (see above, pp. 135–136). All six declarations made through Gallicanus, and the first 43 declarations in the main scheme included some land in the territory of Veleia itself, most of them being composed entirely of Veleian land. After this point, having apparently exhausted the eligible holdings above HS50,000 in value that were made up in whole or in part of Veleian territory, the commissioners of the main scheme now resorted to estates that lay entirely in the territory of Veleia’s most important close neighbour, Placentia; the last three obligationes in the main scheme (nos. 44–46) consist entirely of holdings in Placentine territory.\textsuperscript{106} It is therefore possible that the commissioners had compulsory powers extending to the citizens of towns other than the town benefited by a particular unit of the alimentary scheme: for landowners all of whose land lay in the territory of another town would not usually have been citizens of Veleia.

IV. THE ALIMENTA AFTER TRAJAN

In sharp contrast to the abundant detail of the two Trajanic alimentary Tables, the evidence about the organisation of the alimenta after the earlier years of Trajan’s reign is very sparse. Although the alimenta continued in existence throughout the second and early third centuries A.D., there are very few indications of any substantial development after Trajan’s time. The one important addition to the

\textsuperscript{105} The three cryptic mentions in the Table of Ligures Baebiani of an ‘obligatio VIII’ may refer to a similar pilot scheme at that town, since the declarations and loans that this involved stood as part of the main series at Ligures Baebiani. Mommèn, following Henzen, interpreted the numeral, rather unconvincingly, as an indication that this constituted the ninth payment for the setting up of alimenta that the government had so far made at the date concerned (CIL IX, 1455, ii, 26; iii, 14, 18. Page 128, 1).

\textsuperscript{106} The Baebian Table shows indications of a sequence of another kind: the absentee landowners, who would tend to be the most important, are concentrated in the first 1\frac{1}{4} columns of the list (n. 54 above); while the landowners with Greek cognomina are almost entirely confined to the second half of the list (n. 56 above).
government alimentary scheme of which there is reliable record was made by Antoninus Pius. The *Scriptores Historiae Augustae* also allege extensions of the *alimenta* by Hadrian, Marcus Aurelius and Severus Alexander, but the absence of either numismatic or epigraphic confirmation leaves it doubtful whether these additions can have been of any size. The language used of Hadrian's reform is indeed so vague that it may refer simply to his raising the age-limits up to which alimentary benefits continued, which is known from Ulpian. The Trajanic *alimenta* were thought worthy of extensive commemoration in the coin-types of that reign, and Antoninus Pius, too, gave numismatic commemoration, though on a smaller scale, to his new order of beneficiaries, the *puellae Faustinianae*. Since Trajan's successors were always ready to perpetuate the memory of their customary distributions to the troops and people by LIBERALITAS legends on the coinage, the absence from their coins of any certain reference to the *alimenta*, save in the case of Pius, leaves a strong presumption that they did not initiate any important extensions of the alimentary scheme.

The biographer of Pertinax in the *Scriptores Historiae Augustae* says that this emperor made up nine years of alimentary payments which were outstanding at the time when he took the throne (A.D. 193). Mommsen, by implication, suggested that this deficiency might be mainly attributable to his predecessor, Commodus, whose financial difficulties are well attested. But a more likely explanation, in view of the bulk of evidence for the continued existence of the *alimenta* under Commodus, is that this points to a cumulative inefficiency in the running of the *alimenta*, analogous to that implied in the repeated cancellations of outstanding debts to the treasury which took place during the second century A.D. It is open to conjecture whether there had also been actual expropriation of the income of foundations of the Trajanic type, or suspension of alimentary payments which were instead (as Mommsen has suggested) now being made direct from the *fiscus*.

The *alimenta* were still functioning under the Severi; but they were probably still mainly a creation of Trajan's reign, with a few smaller accretions of later date.

107 *SHA*, *sita Pii* 8, 1; Mattingly IV, pp. 48, 51, 235, 245. Five of the seven surviving dedications to the emperor financed by *pueri et puellas alimentarii* are addressed to Pius; one more, a dedication to Marcus Aurelius, was made one year after Pius's death: *CIL* IX, 5700; XI, 5395 (for Pius as "sacratissimus princeps"); cf. *ILS* 6468 and 6988; XI, 5956; 5957; 6002; XIV, 4003 (dedication to Marcus). Also XI, 5989, cf. *ILS* 328 (A.D. 137).

108 *SHA*, *Hadriani* 7, 8; *Marcian* 7, 8; 26, 6; cf. 11, 2; *Alex*. 57, 7.


110 Mattingly III, pp. 82, 88, 96, 183, 184, 194, 202, 203, 206, 211, 214.

111 Mattingly cited in n. 107 above.

112 Mattingly III, p. 622; IV, pp. 928-929; V, pp. 676-677; VI, p. 309, 1.

113 *SHA*, *Pertinac* 9, 3. For various interpretations, see Bourne, p. 67, n. 40.

114 *Staatstreit* II, p. 1080, n. 3. Cf. Dio Cassius LXXII, 16, 3; LXXXIII, 3, 4; *SHA*, *Comm.* 14, 4-7; 16, 8.

115 The future emperor Pertinax was procurator alimentorum between A.D. 187 and 190, while his successor Julianus also held the office under Commodus (*SHA*, *Pertinac* 4, 1; *Prosopographia Imperii Romani* 3, p. 65; *SHA*, *Julianus* 2, 1). Pilaum dates a procurator alimentorum to 180/189, a *proc. alim.* *pro Transpadum Histriam et Liburniam* c. 188, and a *proc. alim.* *per Apulia Calabrium Lucuniam Bruttiens* to 180/192 (*Carrières procuratrices equestres*, 1960, pp. 1006 (no. 178 bis), 1037 (no. 295), 1041 (no. 235)).

116 Cancellations were begun by Hadrian and continued by Pius and Marcus Aurelius (*ILS* 509, A.D. 118 describes Hadrian as the first emperor to make such concessions; Mattingly III, p. 417; *Chron. Pasch.* A.D. 147 in *Chronica Minora* ed. Mommsen I, 1892, p. 224; Dio Cassius LXVI, 32 2). For subsequent cancellations, see *Consularia Constantinopolitana*, A.D. 218 in *Chronica Minora* I, p. 226; *SHA* *Aureliani* 39; *Codex Theodosianus* XI, 28. Cf. *Staatstreit* II, p. 1015, n. 4.

117 *Digest* **XXXIV**, 1, 14, 1; *CIL* X, 5398.
Despite very abundant survivals of Italian inscriptions from the Antonine period, our three dated epigraphic accounts of the setting up of *alimenta* are all Trajanic, and the *Scriptores Historiae Augustae* twice identify the *alimenta* as being a Trajanic institution, when referring to them in the lives of later emperors. The *alimenta* had ceased to exist by the time of Constantine; they are last recorded under Aurelian. But the payments had probably lost most of their value even earlier than this, because of the mounting inflation of the third century, which must have been felt to some extent even in the more remote among the Italian towns at which the *alimenta* were located.

Although his successors continued to administer the benefactions that Trajan had founded, the propagation of his system of local philanthropy was evidently not continued by most subsequent administrations on any but a small scale. The reason can probably be found partly in increasing fiscal difficulties, partly in the heavy capital outlay demanded by the method of financing used in the Trajanic *alimenta*. Despite the survival from more than 40 Italian sites of inscriptions mentioning the scheme, it must remain doubtful whether the government *alimenta* ever reached more than a minority of the 400 odd towns of Italy, if this was their original plan.

APPENDIX I

**The Table of Figures Baebiani (CIL IX, 1455)**

Several points in the reconstruction of the *alimenta* depend on a reconstruction of the original size of the Baebian Table, which is dated to A.D. 101. As it survives, the inscription (on bronze) contains the two final columns of the list of *obligationes*, together with rather less than half of the preceding column, the amount missing being the same throughout its length. Since the figures giving the interest due every six months on each loan have survived for the whole of the incomplete column, the amount of every loan that it included can be accurately inferred (by multiplying by 40, the annual rate of interest being 5%, n. 6 above). The estate-valuations in this column, however, survive only in seven cases out of 16 (n. 88 above), and accurate restoration cannot be made here because of the inconstant relationship between loans and valuations.

Mommsen, who saw the inscription more than once, inferred that the three columns of which there are remains constituted the whole of the list of *obligationes* at this town (commentary to CIL IX, 1455, where the columns are numbered from I to III; *Hermer* 1884, p. 407). Henzen, who also examined the inscription in considerable detail, had likewise concluded in favour of three columns (Henzen, p. 62). Much more recently, Veyne, without having seen the inscription, has posited an additional first column which has entirely perished, without giving the basis for his conclusion in detail (Veyne I, p. 83 and n. 1). But where letter-sizes and column-widths are all-important, calculations based merely on the printed reproduction of a text in CIL cannot provide adequate

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118 *CIL* VI, 1492; IX, 1455; XI, 1147; Cf. 4351.
119 *SHA*, Hadr. 7, 8; *Pert.* 9, 9.
118 See Ruggiero I, p. 403, 2.
112 See n. 2 above.
113 J. Beloch, *Bevölkerung der griechisch-römischen Welt*, 1886, p. 391, gives a total of 431 towns in Italy under the Principate. But the number of towns with government *alimenta* must have been greater than the total of 45 which has been compiled from specific survivals. The office of *procurator aliment. per Apulum Calabriam Lucaniam Bruttius* (CIL II, 1085, etc.) shows that there were probably *alimenta* at a number of towns in each of these regions; but only four towns in the whole area have left epigraphic record of their existence (two in Bruttium, one in Lucania, one in Apulia, none in Calabria). Similarly, though there was a procurator for the *alimenta* in *Transpadum Histriam Liburniam* (CIL III, 6753, etc.), not a single town in Histria has left record of the *alimenta*. See the list of towns given in Appendix III (p. 146) and the distribution map, p. 125.
grounds for rejecting conclusions derived from careful study of the inscription itself, especially those of a predecessor as outstanding as Mommsen. The traditional system of numbering the columns (from I to III) has therefore been retained here in preference to Veyne's system running from II to IV.

The total amount of the loan farmed out for the alimenta at Ligures Baebiani can thus be deduced from the surviving text, since the payments of interest due on each loan survive complete in all three columns. The resulting total loan is one of HS401,800 (Mommsen's arithmetic produced the same answer, CIL IX, p. 128, 2). The annual income was 1/20 of this, HS20,090. This is extremely close to the total that would be required to support 60 boys and 60 girls at the rates of subsidy known from the Veleian Table: the total needed for this would be HS20,160, or (HS192 × 60 = 11,520) + (HS144 × 60 = 8,640); the sum available falls short by about one-third of 1%. A similar slight discrepancy is seen to exist in the much more systematic Table of Veleia (CIL XI, p. 225, 1).

Parity of numbers between the sexes can be paralleled in privately donated alimentary schemes (ILLS 6278 and 6818), but the ratio of boys to girls at Veleia was about 7:1 (above, p. 131). If the ratio of the sexes depended on local choice at Ligures Baebiani also, with similar results, the following figures would be more likely. A preponderance of boys would necessarily mean fewer than 120 beneficiaries in this case, since boys received a higher rate of benefit. A round-figure total is still likely: with an income of HS20,090, this could not be as low as 100, even if all the recipients had been boys (which the mention of 'PVAELLAEQ' [sic] in 1.4 of the preamble makes impossible). 110 is thus the likely alternative, a figure that can be reconciled with the available income more easily than can 120. It would have been composed of 88 boys and 22 girls, a combination requiring a total income of HS20,064, which is less than one-fifth of 1% short of the income actually available (HS20,090). In terms of which is the more likely as a round-figure laid down by the government, 120 seems the better conjecture, but in these circumstances this criterion is inadequate as a deciding factor.

It is certain that the number benefited at Ligures Baebiani was very much smaller than at Veleia; the actual total was probably either 120 or 110 children.

APPENDIX II

RéSUMÉ OF NUMERICAL INFORMATION PROVIDED BY THE ALIMENTARY TABLES
(see also p. 138 above)

The statistics given here for Veleia refer only to the main alimentary scheme at that town, that is to *obligations* 1–46, nos. 47–52 being excluded because planned on a different basis.

<table>
<thead>
<tr>
<th></th>
<th><strong>LIGURES BAEBIANI</strong></th>
<th><strong>VELEIA</strong></th>
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<tr>
<td></td>
<td>(loans given in A.D. 101)</td>
<td>(loans given in A.D. 103/113)</td>
</tr>
<tr>
<td>Number of estates whose owners received loans</td>
<td>66</td>
<td>46</td>
</tr>
<tr>
<td>Aggregate of total estate-valuations</td>
<td>(HS4,471,200; 9 out of 66 valuations are missing)</td>
<td>HS13,039,095</td>
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<tr>
<td>Overall loan amount</td>
<td>HS401,800 (for all 66 estates)</td>
<td>HS1,044,000</td>
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<tr>
<td>Average loan per estate</td>
<td>HS6,543-33 (from the 57 surviving valuations)</td>
<td>HS22,675-22</td>
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<tr>
<td>Aggregate ratio of loans to estate-valuations</td>
<td>(1:13:41, or 7.46%; from 57 surviving valuations)</td>
<td>1:12:49, or 8.01% (7.96%, using alternative valuations)</td>
</tr>
<tr>
<td>Mean and median averages of holdings with loans significantly above 8%</td>
<td>Ligures Baebiani (loans given in A.D. 101)</td>
<td>Veleia (loans given in A.D. 103/113)</td>
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<tr>
<td>HS109,500-00; HS86,000 (based on total estate of each individual)</td>
<td>HS79,937-54; HS50,000 (based on component valuations within 29 single estates)</td>
<td></td>
</tr>
<tr>
<td>Mean and median averages of holdings with loans significantly below 8%</td>
<td>HS73,110-00; HS50,000 (basis as above)</td>
<td>HS55,809-40; HS46,000 (basis as above)</td>
</tr>
<tr>
<td>Mean and median averages of holdings with loans not significantly different from 8%</td>
<td>HS59,857-14; HS46,000 (basis as above)</td>
<td>HS46,814-60; HS32,000 (basis as above)</td>
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<td>Aggregate rate of loan to largest properties (the first quarter, when arranged by size)</td>
<td>7-41% (basis as above)</td>
<td>7-89% (basis as above)</td>
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<tr>
<td>Aggregate rate of loan to smallest properties (the last quarter, when arranged by size)</td>
<td>6-65% (basis as above)</td>
<td>7-68% (basis as above)</td>
</tr>
<tr>
<td>Aggregate rate of loan to properties described in whole or in part as ‘saltus’</td>
<td>—</td>
<td>8-03% (basis as above; 11 properties owned by 8 individuals)</td>
</tr>
</tbody>
</table>

**APPENDIX III**

**TOWNS FROM WHICH EPIGRAPHIC MENTIONS OF THE GOVERNMENT ALIMENTA SURVIVE**

For references see n. 2 above.

<table>
<thead>
<tr>
<th>Abella</th>
<th>Caiatia</th>
<th>Neapolis</th>
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<tr>
<td>Abellinum</td>
<td>Caes</td>
<td>Nepet</td>
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<tr>
<td>Acelum</td>
<td>Capena</td>
<td>Nomentum</td>
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<tr>
<td>Alba Fucens</td>
<td>Compsa</td>
<td>Ostia</td>
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<tr>
<td>Allifae</td>
<td>Cupra Montana</td>
<td>Peltuinum</td>
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<tr>
<td>Ameria</td>
<td>Cures</td>
<td>Pisaarium</td>
</tr>
<tr>
<td>Anagnia</td>
<td>Falerii</td>
<td>Pitinium Mergus</td>
</tr>
<tr>
<td>Ariminum</td>
<td>Ferentum (Latium)</td>
<td>Saepinum</td>
</tr>
<tr>
<td>Arna</td>
<td>Ficulea</td>
<td>Saturnia</td>
</tr>
<tr>
<td>Assium</td>
<td>Formiae</td>
<td>Sestinum</td>
</tr>
<tr>
<td>Atina (Lucania)</td>
<td>Forum Clodii</td>
<td>Sipontum</td>
</tr>
<tr>
<td>Aufidena</td>
<td>Fundi</td>
<td>Suessa</td>
</tr>
<tr>
<td>Auffinum</td>
<td>Industria</td>
<td>Trequicum</td>
</tr>
<tr>
<td>Auximum</td>
<td>Ligures Baebiani</td>
<td>Veleia</td>
</tr>
<tr>
<td>Brixia</td>
<td>Locri</td>
<td>Vibo</td>
</tr>
</tbody>
</table>

**ADDENDUM**

A forty-sixth alimentary town must be added to those listed above: Tifernum Mataurense in Umbria (*CIL* XI, 5989, *cf.* *ILS* 328; this is not shown on the map on p. 125 above).

R. D.-J.
INDEX I

A
agriculture, and the alimentera, 127.
 alimentary loans, territorial distribution, 141.
 Antoninus Pius, and alimentera, 143.
 Aquileia, second colonisation, 23.
 Arab invasion of Cyrenaica, 4, 15.
 Ardea, Byzantine fortifications, 89.
 Aurelian, and alimentera, 144.

B
Belisarius, repairs walls of Rome, 89; restores
Ardea, 89; builds wall of Terracina, 90.
Bergfried, 105, 109.
Borghetto, near Grottaferrata, 95, 96, 97, 99.
La Bottaccia, tower, 112.
Bruttium, 34, 35.

C
Castel di Foiano, 107.
Castellaccio di Versano, 107.
Castel Paterno, 92, 93, 94, 95, 97, 99, 100, 113-116.
Castel S. Pietro, above Palestrina, 105.
Castiglione, see Palombara.
Catilinarian in Bruttium, 35.
Catino, 97.
Cerveteri, castle, 107.
Charles of Anjou, castles of, 105.
La Chiesaccia, 112.
church, sixth-century, at Ras el-Hilal in Cyrenaica,
1-20; gallery stairs, 2, 8, 10; lime-plaster floors,
4, 7; mosaics, 4, 7, 8, 13, 14, 16; opus sectile, 4,
8, 13, 14; painted wall-plaster, 15; stone-carving,
12, 13; stucco, 4, 8, 9.
Civita Castellana, 90.
coins, from Roman kiln near Sutri, 4, 5, 6.
Commodus, and alimentera, 143.
Comum (Como), decurionate, 132, 133; Pliny at,
128, 129, 130; town-wall, 102.
Cornazzano, 111.
Cornelius Gallicanus, 127, 141, 142.
Corneto-Tarquinia, 107.
curatores rei publicae, 133.
Cyrenaica, Byzantine remains in, 1; church at Ras
el-Hilal, 1-20.

D
Della Rovere, Cardinal 97.
Duncan-Jones, Richard, The Purpose and Organisation
of the Alimentera, 123-146.

E
emperors, Holy Roman, Frederick II, 105; Henry
VI, 105; Otho III, 91.

F
Falerii, New, 90, 91, 97.
Ferentum, bronze tablet of, 125, 127.
C. Flaminius, cos. 187, 29.
fortification, styles of: Central and North Italian,
100; French, 105; German, 105; Lombardic,
100, 102.
Forum Anni, 32.
Forum Popilii, 30, 32.
Fosso: della Mola, 113; di Stabia, 113; delle
Sorcelle, 106, 107, 108.
Framlingham Castle, Suffolk, Lombardic style, 102.

G
Gregoriopolis (by Ostia), 90.

H
Hadriani, and alimentera, 123, 143.
Harrison, R. M., A Sixth-Century Church at Ras el-
Hilal in Cyrenaica, 1-20.
Hayes, J. W., notes on pottery: at Ras el-Hilal
church, 11-20; terra sigillata near Sutri kiln, 47.
Hirtius, in Bruttium, 35.

I
Inscriptions; Greek and Latin Inscriptions at Ras el-
Hilal, appendix by J. M. Reynolds, 15-17; Arabic
Inscriptions at Ras el-Hilal, by S. M. Stern, 19-20.

K
Kufic inscriptions at Ras el-Hilal, 4, 19-20.

L
Lawrence, A. W., Early Medieval Fortifications near
Rome, 89-122.
Ligures Baebiani, 125-146 passim.
local administration in Roman Italy, inadequacies
of, 133.
Lucania, 34, 35.
Lucera, castle of, 105.
Marcus Aurelius, and alimentera, 143.
Masa Marittima, 102.
Matilda, Countess, 107.
milestones; of T. Annius Rufus, 21; of P. Popillius
Laenas, 21; at Vibo, 33.
Milo, in S. Italy, 35.
Monserrigioni, 102.
Morolfo, Castel, 109, 116-122.

N
Naples, castle of, 105.
Nauasthmos, anchorage at Ras el-Hilal, 2.
Nerva, and alimentera, 123, 127, 128.

P
Palombara, Count of, 99.
Palombara, Old, 89, 98, 99, 100, 102, 103, 104, 105.
Passero, Castle, 112.
Paternum, 91.
INDEX I

Paterno, see Castel Paterno.
Pertinax, and alimenta, 143.
plaster, painted, with inscriptions, 15.
Pliny, the Younger, alimentary foundation at
Comum, 129, 130.
Polla, elogium, 21, 30, 33.
Pope: Honorius IV, 104; Innocent IV (?) 100;
Gregory IV, 90; Leo IV, 90.
P. Popilius Laenas, cos. 132, 20, 29, 30, 32, 36,
37.
Sp. Postumius Albinus, 23.
pottery-kiln, Roman, near Sutri, 38–88 passim.
pottery, Roman: from kiln near Sutri, 51–87;
amphorae, 12, 50; coarse wares, 50, 51; black-
glazed, 47; Coptic Red Slip Ware, 11; N.
African Red Slip ware, 11–12; lamps, 12, 49;
terra sigillata, 47, 49, 88; terra sigillata chiara 88.
Prato, castle at, 105.
Prima Porta, 109.
private alimentary foundations, 128, 129.
puellae Faustinianae, 143.

R

Ras el-Hilal in Cyrenaica, A sixth-century church at, by
Ras el-Hilal (el-Bondariya, Bonandrea), 2; anchorage of Naustathmos, 2.
Reynolds, J. M., Greek and Latin Inscriptions at Ras
el-Hilal church, Appendix, 15–17.
Rieti, 99, 100, 101, 102.
Rignano, Castle, 116.
roads, Roman, Aquileia—Concordia, 23; Bononia
—Aquileia, 29; and colonial programmes, 23;
Maniago—Vivaro-Arzene, 27; stradale (Codroipo-
Sevegliano), 25, 27; see also Via.
Rocca Ianula, below Monte Cassino, 105.
San Giovenale, Castle of, near Viterbo, 105.
Savelli family, 104, 116.
Sempronius Tuditanus, 30.
Severi and alimenta, 143.
Spartacus, 32, 34, 35.
Stern, S. M., Arabic Inscriptions at Ras el-Hilal church,
Appendix 19, 20.
Sutri, colony at, 87; brick-and-tile kilns near, 87.

T

Terracina, Byzantine fortifications at, 90.
Tor, Torre: Tor Maggiore, 110, 111, 112; Torraccia
nel Bosco, 110; Torre Busson, see Morolo; Torre
delle Milizie (Rome), 111; Torre dei Pastori, 110.
Towers, types of, 110.
Trajan, alimenta under, 123, 126, 127, 128, 136, 142,
143, 144.
Treia, river, 113.
Tusculum, Counts of, 97.

V

Veleia, Table of, 124–146 passim
Venturini family, 107.
Via: Aemilia, 32; Anagnina, 95; Annia, 21–37
passim; Annia, in Etruria, 21, 22 n. 7, 32, Capua-
Rhegium, 21, 30, 37, in Venetia, 22–30; Appia,
32, 33; Ardeatia, La Chiesaccia, 112; Aurelia,
32, 33; Cassia, 32, 33; Claudia Augusta, 27;
Claudia Nova, 33; Flaminia, 110, 113, 118;
Latina, at Borghetto, 95; Popilia, 21, 28, 29, 30;
Postumia, 23, 25, 27, 28, 30; Traiana, 32, 33;
Valeria, 23.
village towers, 109.
Viterbo, Porta Bove, 102.

W

<table>
<thead>
<tr>
<th>INDEX II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ANNÉE ÉPIGRAPHIQUE</strong></td>
</tr>
<tr>
<td>1926. 126–127.</td>
</tr>
<tr>
<td>1954. 167</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>GIL</strong></td>
</tr>
<tr>
<td>638</td>
</tr>
<tr>
<td>646–651</td>
</tr>
<tr>
<td>II</td>
</tr>
<tr>
<td>1085</td>
</tr>
<tr>
<td>1456</td>
</tr>
<tr>
<td>III</td>
</tr>
<tr>
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</tr>
<tr>
<td>4368</td>
</tr>
<tr>
<td>7992, 7992a</td>
</tr>
<tr>
<td>VI</td>
</tr>
<tr>
<td>31388a, 33170</td>
</tr>
<tr>
<td>IX</td>
</tr>
<tr>
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</tr>
<tr>
<td>6369</td>
</tr>
<tr>
<td>6367</td>
</tr>
<tr>
<td>XIV</td>
</tr>
<tr>
<td><strong>DIGEST</strong></td>
</tr>
<tr>
<td>xxxiv. 1, 14, 1</td>
</tr>
<tr>
<td>L, 2, 1 and 2</td>
</tr>
<tr>
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</tr>
<tr>
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</tr>
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</tr>
<tr>
<td>454, 454a</td>
</tr>
<tr>
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</tr>
<tr>
<td>23</td>
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<tr>
<td>PLINY THE ELDER</td>
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<tr>
<td></td>
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<tr>
<td>HN iii, 74</td>
</tr>
<tr>
<td>vili, 163</td>
</tr>
<tr>
<td>xiv, 56</td>
</tr>
<tr>
<td>PLINY THE YOUNGER</td>
</tr>
<tr>
<td>Ep. i. 19</td>
</tr>
<tr>
<td>vili, 31</td>
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<tr>
<td>vii, 19, 4</td>
</tr>
<tr>
<td>vili, 18</td>
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<td>x, 54</td>
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<td>Panegyr. 28, 5</td>
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<td>Hadr. 7, 8</td>
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<td>Pius 8, 1</td>
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<td>Marcus 11, 8; 7, 8; 26, 6</td>
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a. The Site (denoted by arrow), looking North-West

b. Interior after Excavation, looking North-West

Ras-el-Hilal: Church
a. Exterior, the South Side, showing Talus

b. Doorway to Room F, showing Staircase

c. Arch across West End of North Aisle

Ras el-Hilal: Church
a. Spirally Fluted Columns flanking North Entrance to Chancel

b. Baptistery, Rock-cut Basin

Ras el-Hilal: Church
a. Fragments of Screen 3 (right) and of Column visible in Pl. III, a

b. Baptistery, East Wall, with Pilasters in Stucco Relief

Ras el-Hilal: Church
a. Screen 10

b. Screen 8

Ras el-Hilal: Church
a. Stucco Fragments from Apse:
(above) Pilaster Capital; (below) Flutes of Large Shell

b. Screen Fragment from Nave

c. Post Capital found Re-used in South Aisle

(Photos: Harrison)

d. Capital from Column flanking Apse

Ras el-Hilal: Church
a. Interior, looking South-East

b. Screen 9

c. Carved block, probably from doorway to Room A

d. Screen 6

e. Screen 7

Ras el-Hilal: Church
a. North-East Corner of Chancel: Stump of Column between Screens 3 and 4

b. Chancel with Altar Base and Ambon Steps

c. Pavement on East Side of Altar-Base

d. Pier fallen from Upper Storey, in North Aisle

Ras el-Hilal: Church
a. Detail of Ktesis Mosaic Panel

b. Ktesis Panel, in situ

c. Kosmeseis Panel, after Lifting

Ras el-Hilal: Church
Detail of Kosmesis Panel

Ras el-Hilal: Church
a. Southern Panel of Western Row

b. Central Panel of Western Row

c. Detail of North Border

d. Outside Room B

Ras el-Hilal: Church, Nave Mosaic
a. Roman Pottery near Sutri: The Site from the South-East

b. The Kiln, Looking towards Stokehole
a. Roman Pottery near Sutri: The Kiln during Excavation

b. The Same, after Completion of Excavation
a. Roman Pottery near Sutri: The Kiln, Looking West

b. The Same: Concrete Building Overlying Earlier Drain (p. 41)
a. Form 1, No. 21. Kiln Waster  (Scale about 1:1)

b. Form 1, No. 17  (Scale about 4:5)

Pottery from Kiln near Sutri
PLATE XVIII

a. Form 1, No. 2

b. Form 1, No. 1

c. Form 1, No. 20

d. Lamp (p. 49)

e. Form 9, No. 44

Pottery from Kiln near Sutri (Scale, all about 3:5)
a. Form 7, No. 34

b. Form 7, No. 36

(Photos: G. D. B. Jones)

Pottery from Kiln near Sutri (Scale, all about 3:4)
a. **Paterno Castle: W. Wall from Outside**

b. **Old Palombara: Castle, S.W. Corner and W. Side from Outside**

c. **Old Palombara: W. Sector from Within**

(Photos: A. W. L.)
a. Paterno Castle: N.W. Salient from Within

b. Paterno Castle: N. Gate from Within

(Photos: A. W. L.)
PLATE XXII

a. Borghetto: W. Corner from Outside

b. Borghetto: N.E. Corner from Within

(Photos: A. W. L.)
a. Old Palombara: S. Wall and S.E. Corner of Castle

b. Old Palombara: Interior of Three-Storeyed Building

c. Old Palombara: Room beyond S. Wall

(Photos: A. W. L.)
a. Rieti: N. Wall from Outside

b. Rieti: N.E. Corner from Within

c. Rieti: Porta d'Arce from Within

(Photos: A. W. L.)
a. Old Palombara: W. Sector from Within and (background) Modern Palombara

b. Old Palombara: W. Sector from Outside

(Photos: A. W. L.)
a. Cerveteri Castle: Corner Tower and Keep

b. Tarquinia (Corneto) Castle: N. Gate from Outside

(Photos: A. W. L.)
Toric Maggiore: Interior seen from Ground-level
a. Morolo-Busson: W. Curtain and W. Side of Tower, from Outside

b. Morolo-Busson: Vaulting or Palazzo and E. Doorway of Tower
RAS EL-HILAL:
THE CHURCH

PLATE XXXIII

EARTH FILL OF TALUS

GRAVE  GRAVE

MOASIC
OP. SEC.

A

B

C

TOMB

D

BAPTISTRY

E

F

G

CISTERN

INTERLACED KOINHE

LOOP-INTERLACE MOANDER

KOSCI

UNUSUAL

1:50

10 METRES

Drawn by Kh. Youssef Abbass and Martha Harrison (1981)